AN OPEN CLINICAL TRAIL ON
ERIGUNMAM (PEPTIC ULCER)
WITH THE EVALUATION OF SIDDHA DRUG
PANCHA LAVANA VADAGAM

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CERTIFICATE

This is to certify that the dissertation entitled "**AN OPEN CLINICAL TRAIL ON ERIGUNMAM"** is a bonafide work done by **Dr. B. PRASANNA**, Government Siddha Medical College, Chennai – 600 106 in partial fulfillment of the University rules and regulations for award of **SIDDHA MARUTHUVA PERARIGNAR** under my guidance and supervision during the academic year 2013– 2016.

Name & Signature of the Guide

Name & Signature of the Head of Department

Name & Signature of the Dean/ Principal

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INTRODUCTION

INTRODUCTION

The therapeutic system of Tamizhian is one of the oldest system of medicine dating upto 5000 years. The ancient tamils made as insight into themselves in search of longevity. They developed two ways by which they achieved mastery over nature.
The one is YOGIC WAY and the other is THROUGH MEDICINE

These Scholars were called Siddhar's. Hence the therapeutic system propagated by them is also known as Siddha system of medicine.

According to Siddha system of Medicine , the world around us in the macrocosm(Andam) and the human being is considered as the microcosm "Pindam". The macrocosm and the microcosm are formed by five basic elements or panchabootham viz. Ether(Aakayam), Air(Vayu), Fire(Theyu), Water(Appu) and Earth(Piruthivi) which are created one from another in that order respectively.

"அண்டத்துள்ளதே பிண்டம்
பிண்டத்துள்ளதே அண்டம்
அண்டமும் பிண்டமும்ஒன்றே
அறிந்து தான் பார்க்கும் போதே"[1]

From the above mentioned poem, even minor changes in the macrcosum , the universe will immediately affect the microcosm ie the human being.

According to Siddha system of Medicine every drug has five characters , Suvai(taste), Gunam(property), Veeriyam(energy), Vibaakam(Taste after ingestion and digestion), Prabaavam(special character of that matter).

These five characters are also based on the five elements. The seven physical thathus are also related to this five elements. Thus five elements are basis of macrocosm and microcosm. The physiology, Pathology diagnosis, pharmacology and treatement in siddha medicine is totally based on the equilibrium of five basic elements.

Apart from this five elements combine to form the mukkutras or three humours whose balance is essential for the maintenance of good health.

Vali(vayu) is formed by Air and Aahayam, Azhal(Anal) is formed by fire. Kapham(Iyam) is formed by Earth & Water.

These three thathus are nourished by their respective elements.

“வாதமாய் படைத்து பித்த வன்னியாய் காத்து

சேத்மசீதமாய்துடைத்து”[2]

According to above mentioned poem, the first phase in human life is attributed to Vali, the middle to azhal and the last phase to Iyam.In physiological conditions Vali is said to have one “mathirai” (unit) Azhal half and Iyam quarter in the pulse diagnosis (1:1/2:1/4) leads to pathological condition (Kugarna nilai)sometimes produce death.This can be inferred from the following “Thirukkural”

“மிகினும் குறையினும் நோய் செய்யும் நூலோர்

வளிமுதலா எண்ணிய மூன்று”[3]

The arrangement is basically attributes to improper food and activities, the season land normal physical constitution of a man.

Diagonistic methods of Siddha system of medicine is very unique of solely based on the clinical acumen of the physician. The diagonisis is also made by the eight tools of diagonosis aas mentioned below.

“நாடிப்பரிசம் நா நிறம் மொழி விழி

மலம் மூத்திரமிவை மருத்துவராயுதம்”[4]

The treatement methodology of Siddha Medicine is aimed to keep the three dhoshas in equilibrium for the maintenance of seven thathus. So proper diet, medicine and regimen of life are advised for a healthy living.

According to criteria adopted by various siddhars, the disease are classified into 4448. One among them is ERI GUNMAM, a common Gastro intestinal disorder, and it is selected for study. The evidence of the disease ERIGUNMAM is derived from “YUGI VAIDHYA CHINTHAMANI”. The signs and the symptoms mentioned in the Yugi vaidhya chinthamani more or less resemble with that of symptoms in PEPTIC ULCER of modern medicine.

India is large country with different cultural and dietary habits, which may produce regional differences in frequency and the natural course of peptic ulcer. Early

observations showed that peptic ulcer was more common among the population of South India than North IndiaA relatively high frequency of peptic ulcer in South India was attributed to the sloppy diet which required little mastication. It was shown that saliva had a buffering capacity protective effect on the production of peptic ulcer.

Population Surveys and the multicentric study conducted by the Indian Council of Medical Research, on the prevalence of peptic ulcer, the lifetime prevalence of the peptic ulcer was 0-61% in Delhi, 0.69% in Chandigarh, and 0.75% in Chennai.The Point prevalence of peptic ulcer in India was 4.72% and the lifetime prevalence was 11-22%.[5] The prevalence of peptic ulcer increased with age, with a peak prevalence of 28.8% in the 5th decade of life. Peptic ulcer was not only related to socio-economic status. Peptic ulcer (Gunmam) is a disease have seen commonly among white-collar, coolie's, farmer, labour, poor & rich.

During my Under graduate study I come across so many patients suffering from Dyspepsia, Epigastric pain borborgymes, backpain, vomiting, nausea, &mental depression. With this experience I have selected the disease Erigunmam for the clinical study of dissertation work on the basis of Siddha concepts on course of the diseases, diagonosis treatement, and dietic aspects. A wide knowledge of Siddha and modern concepts about aeitology, signs and symptoms.

The study is carried out by considering the signs and symptoms derived from Siddha literatures and Siddha diagonistic measures along with required modern parameters.After a deep study in the review of the Siddha literatures of medicines, the following medicines were carefully chosen for the study as the trial medicines.The author feels that he is dedicated to serve humanity by relieving it of its sufferings caused by ERIGUNMAM with the siddha drug PANCHA LAVANA VADAGAM.(Ref:Vaithiya thirattu.page no-112)[6]

AIM AND OBJECTIVE

AIM:

The main aim of this study is safety and efficacy of a drug and to do a clinical trial with siddha drug in one of the 8 types of gunmam known as Erigunmam with keen interest and observation on the aetiology. Pathology, diagonosis,complications and the treatement aspects using a time honoured siddha medicine panchalavana vadagam .(Ref:Vaithiya thirattu.page no-112)[7]

OBJECTIVE:

1. To collect and detail the study of various siddha and modern literatures dealing with aetiology, signs and symptoms, diagonosis, progonosis, complications, diet theraphy and treatmental aspects of ERIGUNMAM.

2. To have an idea of the incidence of the diseases with reference to sex, age, habit, occupation, income and social of patient.

3. To expose the efficiency of Siddha's diagonistic principles.

4. To know the extent of the correlation of definition, etiology, classification, symptomalogy, investigation, diagonistic methods and line of treatment on a part with the modern medicine system.

5. To do basic analysis on

    - Physio chemical analysis
    - Pharmacological analysis and Anti ulcer activity
    - Toxicity study-1.Acute and

      2.Subacute
    - Bio statistical analysis.

6. PANCHALAVANA VADAGAM- 1 gm with hot water twice a day.

To conduct the clinical trial with the above medicine for ERIGUNMAM.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

SIDDHA ASPECT

GUNMAM

Synonym: Gulmam

Definition:

Gunmam is a clinical entity which depress both body and mind since it is called as Gunmam. Gunmam is a generic name for gastro intestinal disorders usually associated with abdominal pain before or after food with abdominal signs like epigastric pain and burning with relation to food, nausea, vomiting, anorexia, bloating and fullness of stomach, diarrhoea, indigestion.

ETIOLOGY AND PATHOLOGY

Siddhars have recorded thefollowing causes for the manifestation of Eri Gunmam they are

"செய்யானகுன்மத்தின் உற்பத்தி தன்னைச்
செப்புடவே துவர்ப்பான பொசிப்பினாலும்
மய்யான மங்கையுடன் மார்க்கத்தாலும்
வகையான கிழங்குவகை அருந்தலாலும்
உய்யான மிளகுவகை யுரைப்பினாலும்
உறுபசியை யடக்கிடும் மந்தத்தாலும்
தய்யான சன்டாள கோபத்தாலும்
சலிப்பாலும் குன்மம் வந்து தாக்கும் பாரே"[8]

“ஊனுக்கும்உன்நீநீண்பாற்பசிபோகும்

வினுக்குகுன்மம்விளயுங்காண்”[9]

Description in agasthiyar guru naadi sasthiram

“குன்மமதுதானெழுப்பும்விபரமென்னில்

குடல்தனிலே கல்லுமிக நெல்லு மூக்கும்

இன்னமுடன் வயிறுப்பி சோறை சார்ந்தகால்

புருவது குடலோட மாசு பற்றும்

அன்னமது செரிக்காது மாசினாலே

அதுவுயரம் உமிமூக்கு கிருமி புக்கும்

வன்ன முலைக் குயிலாலே குன்ம ரோகம்

மாசாற்றால் குன்மம் வருவகைதான் பாரோ”[10]

Dietic factors& habits and unbridled sexual indulgence

A)Irregular food habit.

b)The frequent intake of hot foods.

c)Prolonged starvation ,hardly digestable foods.

d)Tubers which will produce flatulence.

e)Unbridled sexual indulgence are considered to be the predisposing factors.

Siddhars believed that over unbridled sexual indulgence is a predominant cause for all diseases ,which decreases the resistance of individuals increasing the susceptibility to diseases.

PSYCHOSOMATIC CAUSES:

Yugi munivar attributes one's own angry and grief as the causes for gunmam.

"தய்யான சண்டாள கோபத்தாலும்
சலிப்பாலும் குன்மம் வந்தடையும் பாறே"[11]

In Agasthiyar kanma kaandam ,Agasthiyar has cited the psychospirtual reasons for gunmam as follows

"நன்மையில்லா மனக்கசடு பெருத்த பாவம்
நல்லாரை மனம் நோக பழித்த பாவம்
தன்மையில்லா பிறர் புசிக்க உண்ட பாவம்
சண்டாள தத்துவமே செய்த பாவம்
இன்மையி இப்பாவம் வந்து சுற்றி
அதனாலே குன்மமென வெடுத்த வாறே"[12]

Sin pertaining to those who have deprived the dwellings of others,humiliating elders and polite neighbours and taking food in the presence of starved people are the predominant reasons for the sprouting of the aweful diseases by their actions and covetous mind in the past.

The great world poet our Thiruvalluvar in his Thirukkural.

" தன்னைத்தாணேகாக்கின்சினம்காக்ககாவாக்கால்
தன்னையேகொல்லும்சினம்"

States that anger is a ‘self killer’ and says the way for conquering death is being force from anger ,fear and worry.

In Thirumoolar karukkadai vaidhyam Thirumoolar says that

“குன்மம்இவை நாளில் கூறினாள் எண் விதம்
வன்மையாய் நோய்க்குள் மகா நோய்தான் பொல்லாது
கன்மமே செய்த கசடற்கு இது எய்தும்
நன்மையாங் தர்மஞ் செய் நாட்டோர்க்கு வாரா[13]

TYPES OF CLASSIFICATION

According to siddha there are eight types of Gunmam. They are named on the clinching or cardinal symptoms and signs , whereas the peptic ulceris classified into two types only accordingly to the organic lesions and situations i.e.

YUGI MUNI‟S CLASSIFICATION

Yugi Muniver in his siddha clinical medicine has classified Ginma noi into eight types. They are

1. Vayu Gunmam (or) Payuru Gunmam
2. Vatha Gunmam
3. Pitha Gunmam
4. Sethma Gunmam
5. Eri Gunmam
6. Vali Gunmam
7. Sathi Gunmam
8. Sanni Gunmam

1.VATHA GUNMAM – Signs and symptoms

“விருத்தமாம் வாதகுன்மம் விளம்பகேளாய்
மிகத்தானும் நடைகுறையும் மலம் விடாது
வகுத்தமாய் உடல் தானும் மிகக் கடுக்கும்
உறக்கமொடு தியக்கமாம் யுழலையாகும்
தடுத்தமாஞ் சரீரமது கனத்துத் தோன்றூம்
சங்கையாம் அசனமிகத் தானும் செல்லா
பிகுத்தமாம் பெலக்கேடாய் கைகால் ஒயும்
பேசொனா நாவறளும் தலையும் நோயே”[14]

Dryness of the tongue , anorexia , constipation, headache, pain all over the body, power diminished in the upper and lower extremities , inability to walk, heaviness of the body, general debility, restlessness, fainting, etc.,

2.PITHA GUNMAM- Signs and symptoms

“நோம்பித்த குன்மத்தின் நுட்பங்கேளாய்
நுனிமஞ்சள் நிறம்போல முகமாகும்
வாஞ்சத்தி வாந்தியுண்டாய் பிணமறுக்கும்
மயக்கமாய் நெஞ்சுதனிற் கோழைகட்டும்
சுரம் நெருப்பாய் தானிருக்கும் கைகாலோயும்
சுடுவெயிற் கண்டவுடன் தலையும் சுற்றூம்
போமூத்திரம் சிவந்திருக்கும் தாகங் கானும்
முக்கியே மலம் வீழும் மூச்சுண்டாமே”[15]

Yellowish discolouration of the face, nausea, vomiting, fainting, accumulation of mucous secretion in the lungs, dyspnoea, guiddiness increases when exposure to sunlight, reddish discolouration of urine, increased thirst, constipation, etc.,

Dr.Kuppusamy Mudaliar adds that the vitiated pitha in the inflamed stomach will cause indigestion and vomoiting of the semi digested food with blood, headache, burning eyes and the yellowish discolouration of the body also.

Later , there will be intense pain with short intervals, bloating, anorexia, dryness of mouth, hearts burn, gastric eructations, sleeplessness, etc.,

3.SETHMA GUNMAM-Signs and symptoms

“உண்டாகும் வாய்நீர் தான் இளைப்புண்டாகும்
உடல்வற்றி கருத்தழிய முரத்திரைக்கும்
வெண்டாகும் பெலங்கெடுக்க மசனந் தள்ளும்
மிக்கான தலையரிக்கும் வெளிருமேனி
தொண்டாகு நென்சுதனிற் புகைச்சலுண்டாகும்
திடுக்கிட்டு நடுக்கலுமாந்த தேகற்தாலும்
திண்டாகுந்த் தலையெங்கும் பாராமாகும்
சிலெட்டும மாங் குன்மமென்றே செப்பலாமே”[16]

Excessive salivation, emasiation, bronochospasm, lowered vitality, loss of appetite, fainting, pallor, cough, sudden rigor of the body, heaviness of the head, etc.,

4.VAYU GUNMAM- Signs and symptoms

“பார்கவே வாயு குன்மம் பகரக்கேளாய்
பருகியதோர் பதார்த்தங்கள் செரித்திடாது
தோர்க்கவே யசனற்தான் செல்லதாகும்
துருத்திக்குள் காற்றதுபோல் வயிறுமுப்பும்
ஊர்க்கவே உள்பெலனும் கெடுப்ப தாகும்
உடலுலரும் நடைகுரையும் ஒய்ச்ச லாகும்
வேர்க்கவே யடிவயிறூ தனிலெ வந்து
மிகப்புரண்டு வில்லுப்போல் விகுத்தலாமே”[17]

Anorexia, indigestion, bloating of the abdomen with increased peristalsis and rigidity in the lower abdomen with sweating, general debility, drowsiness, etc.,

5.SANNI GUNMAM- Signs and symptoms

செப்பலாஞ்சன்னிகுன்மச் செயலைக் கேளாய்
தியக்கமொடு மயக்கமாய் குளிருண்டாகும்
அப்பமாம் மசன மிகத்தானுஞ் செல்லா
அடிவயிற்றீ லிரச்சல்லுமாய் வாய் நீருறூம்
உப்பலாய் வயிறீழியும் உஷ்ணமாகும்
உவர்க்கும்வாய் நெஞ்சுதனில் புகைச்சலுண்டாம்
தெப்பமாய் மூச்சதுவுங் சிதைந்தெழும்புந்த்
தேகமெங்குங் குளிர்ச்சியுமாகும் பாரே”[18]

Fainting, coma, chillness of the body, loss of appetite,borborygmus in the lower abdomen, excessive salivaton, diarrhoea, saltish taste, cough, dyspnoea, etc.,

6.ERI GUNMAM- Signs and symptoms

“திடுக்குமாஎரிகுன்மச்செயலைக்கேளாய்
சிறுவயிற்றி லெரித்துமே குடல் குமுறூம்
எடுக்கும் வாய் நீர் சுரக்கும் தலை வலிக்கும்
வயிறுப்பும் கிறுகிறுத்தே ஏப்பமாகும்
வெழுக்கும் மயிர் கால்தோறும் வியர்வையாகும்
மிகப் பொருமி வயிறூ கழிந் திரைச்சலாகும்
எடுக்குமே குடலிலைக்கும் இரங்கா தன்னம்
எரியுமே உடலெங்கு மிரும லாமே”[19]

Stomach burn, borborygmus, excessive salivation, headache, bloating, eructation, sweating, diarrhea, anorexia, etc.

7.VANTHI GUNMAM- Signs and symptoms

இருமலாஞ் சத்தி குன்மம் மியல்பாய்க் கேளாய்
ஈரலுக்குள் வெளீயாகும் மேகமாகும்
திருமலாயந்த் தியக்கமொடு மயக்கமுண்டாம்
சிறுவலியு முண்டாகி வாந்தியாகும்
பொருமலாம் பெலன் கெடுக்கும் மலம் விடாது
பேரான அக்கினிதான் மிகவுண்டாம்
செருமலாம் நடைகுரையும் அருசியாகும்
சிறூ நரம்பெல் லாம்புடைத்துத் திமிருமாமே”[20]

Burning in the hypochondric region, fainting, coma, dull pain accompanied by vomiting, constipation, increased appetite, diastite, prominence of the veins, numbness, etc.

8.VALI GUNMAM- Signs and symptoms

"திமிராக வயிறூறுந்த் திரையு மேனி
செடமுலைந்து கருத்தழியுச் சிதறுந்த் தூக்கம்
வமிராக வயிறீறேய்ந்து முன்போலோகும்
வருத்தமா யசன மிகத் தானுஞ் செல்லா
முமிராக விலாவதனிற்ச் சொருகலாகும்
முதுகுதண்டு வலிகானு மிடுப்பு தோவாம்
கமிராக காயமது கடுத்துக் காணூம்
கனசரமாய் பொய்ப்பசியும் காணூந்தனே"[21]

Bloating of the abdomen, wrinkles in the skin, dryness, confusion, disturbed sleep, borborygmus, piercing pain, loss of appetite, pain the hypochondrium, pain the back, pain the hip, pain all over the body, etc..,

Thirukanda Munivar also classified into eight types but he differs from Yugi Munivar. They are

1.Vadha Gunmam

2.Pitha Gunmam

3.Kapha Gunmam

4.Vatha Pitha Gunmam

5.Vatha Kapha Gunmam

6.Pitha Kapha Gunmam

7.Thrithoda Gunmam

8.Rattha Gunmam

The Rattha Gunmam classified into Rattha Gunmam and Rattha Pitha gunmam.

Some authors add three more types such as

"Samaniya Vadha Gunmam"

"Samaniya Pitha Gunmam"

"Samaniya Sethma Gunmam"

Some authors in addition to the Kutra types as Vadha, Pitha, Sethma and Thrithoda types and payuru Gunmam, Eri Gunmam, Vanthi Gunmam, and Vali Gunmam. This classification is based upon the cardinal symptoms.

Thirumoolar's view

Thirumoolar classified gunmam into four types as follows,

1.Vadha Gunmam

2.Pitha Gunmam

3.Iya Gunmam

4.MegaGunmam

1.VATHA GUNMAM

Combination of disturbed vatha and disturbed vayu results in vatha Gunmam. The signs and symptoms are spasmodic pain in the stomach, piercing pain in the intestine which also Spasmodic in nature, ec.,

"பாருமே வாதமும் வாயுவும் கூடிடில்
ஊருமே கும்பியில் உழன்ற மிகறோகும்
கோகுமே குத்தும் குடலை முற்றுகிடும்
வாருமே வாதத்தில் வழங்கிய குன்மம்"[22]

2.PITHA GUNMAM

Combination of disturbed pitha and disturbed vayu in the pitha Gunmam. Signs and symptoms are pain in the abdomen after completion of digestion [Hunger Pain] excessive salivation, vomiting, etc.,

"ஏற்றின குன்மம் எழுந்தவிதங் கேள்
போற்றிய பித்தமும் வாயுவும் தொந்திக்குள்
சேற்றிய அன்னம் செரிக்கில் வலிப்பேறூம்
மாற்றிய நீருறிவாந்தியாம் பாருமே"[23]

3.IYA GUNMAM

Combination of disturbed Kapha and disturbed vayu results in Iya Gunmam. Intolerance of food , fermentation of the swallowed food, accompanied by spasmodic pain the abdomen and pain all over the body.

“வழங்கிய ஐயமும் வாயுவும் கூடிடில்
தழங்கிய அன்னத்தை சந்திக்க ஒட்டாது
புழங்கிய அன்னம் புளீப்பு கொடுத்தேறி
உழங்கிய முறிக்கி உடலும் வலிக்குமே”[24]

4.MEGA GUNMAM

Combination of mega with disturbed vayu results in Mega Gunmam. Spasmodic pain the abdomen, constipation, etc.,

“வலிக்கின்ற மேகமும் வாயுவும் கூடிடில்
மலிக்கி மலசலம் பதையாமற் கட்டிடும்
இலிக்கி இடப்புறம் இயல்பாய் வலிப்பும்
வலிக்கும் முறிக்கும் வருஞ்சூவை குன்மமே”[25]

குன்மமது தானெழுப்பும் விபரமெனில்
குடல்தனிலே கல்லுமிக தெல்லுமூக்கும்
இன்னமுடன் வயிறுப்பி கோரைசார்ந்தகால்
புருவது குடளோட மாசு பற்றும்
அன்னமது செரிக்காது மாசினாலே
அதுவுயரம் உமிமூக்கு கிருமி புக்கும்
வன்ன மூலைக் குயிலாலெ குன்ம ரோகம்
மாசாற்றால் குன்மம் வருவகைத்தான் பாரே”[26]

As per the above poem Agasthiyar in the work ‘Guru Naadi Sasthiram’ stated the causes and clinical features of ‘Gunma Noi’.

CLINICAL FEATURES:

மேவிய குன்மந்தான்னெழுந்ததோர் விதங்கள் சொல்வோம்
பாரிய பித்தத் தொடும் வாதமும் பரிந்து சேரில்
வாகிய வண்ண நீரும் வாந்தியமாகும் பாறே
பாரப்பா வாயு வாதம் பரிவுடனே பாவன்றங்கில்
ஏரப்பா நாடி தன்னை வரண்டுதான் மிகவே நோகும்
கோரப்பா நெஞ்சிற் குத்தும் குடலை முறுக்கிக் கொண்டு
வாரப்பா வலிக்கு மெத்த வாதமாய் வழங்கும் வாய்வே
வழங்கிய அப்புவோடு வாத மென்றேயால்
முழங்கிய முறுக்குமேனி திரையும் வதைக்குங்காலே"[27]

In the above poem, the following clinical features of Gunmam as per Agasthiyar in his work. Agasthiyar Vaidya Kaviyam-1500 are described

Stones in food, paddy with pointed edge in food and worms. Clinical features are flatulence, abdominal pain and indigestion

VITATION OF MUKKUTRAMS(THRIDHOSAS)

As Therayar used to say – there is no Gunmam without the vitiation is due to irregular food habits , Psychic factors and activities, etc.,

As a resulted of vitiated Vatha the three important Vayus Uthanan, Apanan and Samanan are also vitiated. The vitiation of the above phenomena results indigestion , pain in the abdomen, distention, increased peristalsis, diarrhea, vomiting, etc., which are the signs and symptoms of Gunmam. The persistence of the above condition results in debilitation of Saram, Senneer, Oon, Kozhuppu and other thathus.

MUKKUTRA THEORY:

The siddha concept is that , whatever be the course, attribute to the occurrence of "GUNMAM" or any other diseases. The manifestations of the disease is the result of disturbed "Dhoshas" i.e vadha, pitha, kapha.

"உற்றதோ உடலின் கூறு
உறுப்புடன் விரவி நின்று
முற்றுமே நோய்கள் எல்லாம்
உடல்தனில் தோன்றும் போது
பற்றுமே வாத பித்த
சிலேற்பனந் தன்னில் ஒன்றே
பற்றியே தோன்றும் என்று
பகர்ந்தனர் முனிவர் தாமே"

-அகத்தியர் குருநாடி சாஸ்த்திரம்[28]

Tastes of the foods have great influence over the physiological activity of three dhoshas, because the tastes and thiri dhoshas are firmed by the different combination of five elements i.e. pancha Bhoothas. The combination of five elements in Thiri Dhoshas are as follows,

1. Vadhaவாதம்--- vali (வளி) + vinn (விண்)

2. Pithaபித்தம் ---Thee (தீ)

3. kaphamகபம்---Neer (நீர்) +Mann (மண்)

The elemental combination of tastes are as follows,

1.Sweetஇனிப்பு = மண் + நீர்

2.Sourபுளிப்பு = மண் + தீ

3.Saltஉப்பு = நீர் + தீ

4.Bitterகைப்பு= வளி + விண்

5.Pungencyகார்ப்பு = வளி + தீ

6.Astringentதுவர்ப்பு= மண் + வளி

For example the taste sweet is the combination of mann and Neer . The Dhosha kapha possesses the same combination, so it is clear that the excess of sweet will initiate kapha and it can be balanced by administering the tastes which consists of the other three boothas.

Similarly administration of sour taste things in pithaa diseases will produce exacerbations of the ailment. Adversely the disease will be alleviated by administering things which consists of opponent element.

ERI-GUNMAM:

Burning pain in the stomach, borborygmus, excessive salivation, headache, bloating, guiddiness, eructation, sweating and diarrhea are the common symptoms in Eri Gunmam.

"திடுக்குமா எரிகுன்மச் செயலைக் கேளாய்
சிறூவயிற்றி லெரித்துமே குடல் குமுறும்
எடுக்கும் வாய் நீர் சுரக்கும் தலை வலிக்கும்
வயிறுப்பும் கிறுகிறுத்தெ ஏப்பமாகும்
வெழுக்கும் மயிர் கால்தோறூம் வியர்வையாகும்
மிகப் பொருமி வயிறு கழிந் திரைச்சலாகும்
எடுக்குமே குடலிலைக்கும் இரங்கா தன்னம்
எரியுமே உடலெங்கு மிரும லாமே"[29]

THINAI:

Geographically, living country has been divided into five distinct physical regions, namely:

1.Kurinchi

2.Mullai

3.Marutham

4.Neithal

5.Paalai

Each region has got its own characteristic features which influence the inhabitants, mental, physical,economic,occupational and cultural avtivities. In each regions on the basis of its peculiar physical and climatic features some ailments are endemic. The preventive and curvative measures for these ailments are stated in the medical literature.

KALAM[Seasons]:

With reference to the position of the sun in the orbit, the year divided into six seasons. They are,

1.Kaar kalam- Avani and Purattasi [August & September]

2.Koothir Kalam- Iyppasi and Karthigai [Oct & Nov]

3.Munpani Kalam-Margazhi and Thai [Dec & Jan]

4.Pinpani Kalam-Masi and Panguni[Feb & March]

5.Elavenil Kalam-Chithirai and Vaigasi[April & May]

6.Mudivenir Kalam-Aani and Aadi[June& July]

In every season there will be changes in the land, water, plants, animals and human beings, which will modify the physiology and making them susceptible to certain specific disease which are common in these seasons. The siddhars heve been anticipated those changes and advised certain measures in the form of diet, purgative exercises, etc., to avoid the onset of such ailment,

UYIR THATHU:

Knowledge of three Uyir thathus and seven Udal Kattugal will be helpful to do detailed study on the disease.

Vatham:

It is the life manifestation of Vayu and Ahaya boothas. It is mathirai alavu is -1.

Location of Vatham:

Vatham located in the abanan, faeces, idakalai, spermatic cord, Pelvic bone, skin, nerves, joints, hairs and muscles.

FUNCTIONS OF VATHAM:

TYPES OF VATHAM: It has 10 types:

1. **Pranan (Uyir Kaal**)

It is responsible for respiration and digestion. But in Eri Gunmam some of patients affected indigestion.

2. **Abanan (Keezhnokku Kaal)**

It lies below the umbilicus responsible for the downward expulsion of stools, urine and constriction of anal sphinchters. But in Eri Gunmam some of patient‟s affected diarrhoea and some patients have constipation.

3. Viyanan (Paravu Kaal)

It is responsible for the absorption and distribution of food. In but in Eri Gunmam some patients affected malabsorption

4. **Uthanan (Melnokku Kaal)**

It is responsible for the absorption and distribution of food. But in Eri Gunmam some of patients affected malabsorption, nausea, vomiting.

5. **Samanan (Nadu Kaal)**

It is responsible for the balancing of the vayus: absorption of nutrient‟s and balances of the body. But in Eri Gunmam some of patients affected indigestion and malabsorption

6. **Nagan**

It is responsible for the movement for eyelids.

7. **Koorman**

It is responsible for the sight, closing of eyelids, yawning and closure of mouth.

8. **Kirukaran**

It is responsible for the secretion of mouth and nose, appetite, sneezing, cough. In Eri Gunmam some of patients had loss of appetite.

9. **Devathathan**

It is responsible for aggravating of the emotional disturbances anger, etc. some of patients affected stress and strain.

10. **Thanajayan**

It escapes from the head on the third day after death.

PITHAM

It is the life manifestation of the thee bootham. It‟s mathirai is ½.

Location of Pitham in the body:

Pitham is located in Pirana Vayu, blood, moolakini, heart, umbilical region, abdomen, sweating, saliva, eyes and skin.

Functions of Pitham:

Pitham controls digestion, temperature, vision, appetite, thirst, taste and strength of the body. It is responsible for the formation of red or yellow colour in the body and heat especially during digestion. It is also responsible for giddiness, increase of blood, discolouration of stools, urine, anger, memory and bitter and sour taste.

1. Analagam

Its action is characteristic of thee. This is responsible for digestion of food. In Eri Gunmam some of patients affected like indigestion.

2. **Ranjagam**

It is responsible for the colour and contents of blood. In Eri Gunmam some patients affected inability to do work properly.

3. **Saathagam**

It lies in the heart. It is responsible for the action after thinking. In Eri Gunmam is affected inability to do work properly.

4. **Prasagam**

It is responsible for the complexion of skin.

5. **Aalosagam**

It is responsible for the vision.Some patients affected defective vision.

KAPHAM:

It is the life manifestation of mann and neer. It is mathirai is ¼.

Location of Kapham:

Kapham is located in samana vayu, sperm, head, tongue, uvula, fat, bone marrow, blood, nose, chest, nerve, bone, brain, eyes, and joint and it provides the material for the structure of every cell of the body.

Function of Kapham:

Generally it acts as a distructive factor in the body. When Kaphem is in normal condition, it maintains heart function, taste, coolness of eyes, lubricates and aids free movements of the joints.

1. **Avalambagam**

It causes diseases of the respiratory system when it is affected thereby indirectly affecting the other Iyyams

2. **Kilethagam**

Appetite and digestion may not be normal when it is affected. In Eri Gunmam some patients affected indigestion and loss of appetite.

3. **Pothagam**

It is present in the tongue and gives and taste. Some patients affected and causes anorexia.

4. **Tharpagam**

Present in the head and is responsible for coolness of the eyes,sometimes may be reffered to csf,which is normal in Erigunmam.

5. **Santhigam**

It is present in the joints and helps free movements.Necessary for lubrication and free movement of joints.It is not affected in Erigunmam.

1. VATHAM

Increased Vatham

Emaciation, desire to hot food, shivering, abdominal bloating, constipation, fatigue, sleeplessness, giddiness and lazyness.

Decreased Vatham

Pain all over the body, low voice, loss of attentiveness, unconsciousness and other disease of increased kapham.

2. PITHAM

Increased Pitham

Yellowishness of eye, stools, urine and skin, excessive thirst and appetite, burning sensation of the body and sleeplessness.

Decreased Pitham

Hypothermia, loss of skin complexion and also causes derangement of kapham..

3. KAPHAM

Increased Kapham :

Increased salaivation, inactiveness, heaviness of the body, impaired joint movement, dyspnoea, cough and increased sleep.

Decreased Kapham :

Giddiness, flattening of chest, increased sweating and palpitation.

As per the disturbed proportion of Thiridosha the Uthana vayu, Samanavayu and Apana vayu which control the secretary and motility function of the digestive tract, consequently the prasaka pitham which is responsible for the acid nature of the gastric juice and the kilathaka kapha which is responsible for mucus secretions of the Amarvasayam (stomach), disturbed unfavourably. Moreover the Apana vayu is responsible for the flatulence of the alimentary tract and passing motion normally. As the total disturbance of the above phenomena manifest inflammation of the gastric mucosa, indigestion, pain, vomiting, gastric eructation, heartburn, constipation etc.

PINIYARIMURAIMAI

The method adopted to find out a disease in Siddha is known as PINIYARI MURAIMAI. It is based on the following principles.

“Pori “ is the five organs of perception namely Nose, Eyes, Tongue, Ears, and Skin. “ Pulan “ is the five objects of senses smell. Taste, vision auditory and respectly corresponding to “Pori “. Poriyalarithal and Pulanal Therthal go hand in hand with the concept to examining the patients “ Pori “ and “ Pulan “ with that of the “ Patients “. Pori and Physician Pulan”.

“Vinathal “ is a method of inquiring the detail of either the patients problem that made him to approach the physician from his own or his / her attendents who accompany them.

Along with, above mentioned principles is also carried out inspection in modern medicine. Besides, Thottuparthal (palpation) and Thattiparthal (percussion) are also used to diagnose a patient.

The primi method adopted to diagnose the disease is by means of "Envagai Thervugal "(Eight types of investigation), Envagai Thervugal of Physician instruments and can be understood by the following versus.

"நாடிப் பரிசம் நா நிறம் மொழி விழி
மலம் மூத்திரம் மிவை மருத்துவராயுதம்"[30]

"In Agasthiyar Vaidhiya Vallathi 600, Envagai Thervugal has been mentioned as "Attavitha paritchai".

"தொகுக்கலுற்று அட்டவிதம் பரிட்சை தன்னை
.....சார்ந்த விழி தன்னைப் பார்த்து தெளிவாய்க் காணே"[31]

ENVAGAI THERVUGAL:

1. Naa
2. Niram
3. Mozhi
4. Vizhi
5. Sparism
6. Malam
7. Moothiram
8. Naadi

1. Naa (Tongue)

The colour character and condition of the tongue change according to the changes of Mukkutram. **In Eri Gunmam, some patients have pallor tongue and some patients have coated tongue.**

2. Niram (Colour)

Signs of Vatha, Pitha, Kapha, colours, mixed colour cyanosis, pallor, flushing or yellowish discolouration can be studies by means of Niram. **In Eri Gunmam some patients have pallor skin due to anaemia.**

3. Mozhi (Speech)

Constitues high or low pitched voice, slurring and incoherent speech, nasal or crying, hoarseness of voice etc.

4. Vizhi (Eye)

Along with sight, anatomical lesions are noted. Burning of the eyes, lacrimation, irritation, colour change of the eyes also noted.

5. Sparisam (Skin)

By palpation and inspection, the following informtions were elicited. Temperature of the skin, whether uniformly hot or cold, thickness, fissures / hard swelling, wrinkles, pigmentation of hairs etc.

6. Malam (Stools)

Vatha type: Hard, rough, dry, scanty and black.

Pitha type: Loose stools with yellow colour, moderate in quantity.

Kapha type: Gray or white coloured stools, huge in quantity with slimy, mucus and frothy bubbles.

In Eri Gunmam some of them have diarrhoea, and some patients have constipation.

7. Moothiram (Urine)

The examination of urine is classified under 2 headings.

a. Neerkuri – (Niram, Edai, Manam, Nurai, Enjal)

b. Neikuri – (Vadha neer, Pitha neer, Kapha neer and Thontha neer)

a. Neerkuri

1. Niram indicates the colour of the urine.

2. Edai indicates specific gravity of the urine.

3. Manam indicates odour of the urine.

4. Nurai indicates frothy nature of the urine

5. Enjal indicates the quantity of urine (increased or decreased) and deposites of urine voided.

In addition to that the frequency of micturition, taste and sediments also noted.

“அருந்துமாறிரதமும்அவிரோதமதாய்
அஃகல்அலர்தல்அகாலவூண்தவிர்ந்தழற்
குற்றளவருந்திஉறங்கிவைகறை
ஆடிக்கலசத்தாவியேகாதுபெய்
தொருமுகூர்த்தக்கலைக்குட்படுநீரின்
நிறக்குறிநெய்க்குறீநிருமித்தல்கடனே “[32]

PROCEDURE:

Neerkuri:

Prior to the day of the urine examination for Neerkuri and Neikuri the patient is advised to take a balanced diet and good sleep.

After waking up in the morning the first urine is collected in a glass container and is subjected to analyse with in one and half anhours.

Neikuri

A drop of gingely oil is added to the side of the vitreas without disturbing the vessel and the neikuri should be noticed in direct sunlight.

The character of Vatha neer

" அரவெனநீண்டிடிற்அஃதேவாதம் "[33]

The character of Pitha neer

" ஆழிபோல்பரவின்அஃதேபித்தம்"[34]

The character of Kapha neer

" முத்தொத்துநிற்கின்மொழிவதென்கபமே "[35]

The character of Thontha neer

" அரவிலாழியும்ஆழியில்அரவும்
அரவில்முத்தும்ஆழியில்முத்தும்
தொற்றீள்தொந்ததொடங்களாமே "[36]

The character of Mukkutra neer

When the drop of oil drowns in to the urine, it indicates Mukkutra neer.

8. **Naadi**

Naadi is responsible for the exercise of life can be felt one inch below the wrist on the radical side by means of palpation with the tips of the index, middle and ring finger, corresponding to vatham, pitham, kapham.

Three humors vatham, pitham, kapham exists in the rations 1:1/2:1/4 normally. Dearrangement in these rations leads to varios disease entities.

In Gunmam the following nadi can be felt.

1.”வளிநாடிஇடத்திலிசைந்தால்வளிகுன்மமாம்”

“பித்தநாடிஇடத்திலிசைந்தால்பித்தகுன்மமாம் “

“கபநாடிஇடத்திலிசைந்தால்கபகுன்மமாம் “

2 .”வாதந்தான்உதறிநிற்கில்
வலிகுன்மம்வந்துசேரும்”

3. “வாதமும்பித்தமும்கூடி
வன்பெலத்துடனேயோடில்
தீதறுவயிற்றுனுள்ளே
திரண்டதோர்மந்தம்பற்றி
வேதனையெரிப்புங்கூடி

வெருண்டிடுமெரித்தகுன்மம்”

4. “பித்தத்தால்பித்தகுன்மம்
எரிகுன்மம்சத்திகுன்மமுண்டாகும்”[37]

1. “வாதமெனும்நாடியதுதொன்றில்
சீதமந்தமொடுவயிறுப்பொருமல்திரட்சிவாயு
……
……
நீதமுறுங்கிருமிகுன்மம்அண்டவாதம்”[38]

2. “சிறப்பானபித்தத்தில்வாதநாடி
சேரிலுறுதாதுநட்டமுதரபீடை
உரைப்பாகச்செரியாமைகுன்மசூலை”[39]

The facts regarding Envagai thervugal suggest that it is mostly used diagnostic role in Siddha system of medicines and more concentration should be emphasized to earn proficient knowledge.

Beside Envagai thervugal a disease can also be diagnosed by means of other methods namely Kanmendiriam, Ganaendriam, Uyirthathukkal, 7 Udalkattukkal, Paruva kaalam, Thinai. Hence a complete through knowledge about the disease can be studied out systemically and properly in Siddha system of medicine.

SEVEN UDAL KATTUGAL:

There are seven primary body tissues which constitute the entire human body and all the organs of the various system.

1. **Saaram**:

It is the end product of digestive process. It gives strength to the body and mind. It is affected in all patients. They have indigestion.

2. Seneer:

The saram after absorption is converted into seneer. It is responsible for knowledge, strength and health complexion. In Eri Gunmam all patients have malabsorption.

3. Oon:

It gives figure and shape to the body. It is responsible for the movement of the body. In Eri Gunmam some patients have loss of weight.

4. Kozhuppu:

It lubricates the organ and thus facilitates their function.

5. Enbu:

Gives shape to the body helps locomotion and protects vital organs.

6. Moolai (Machai)

Present in the bone and it gives strength, maintains the normal condition of the bone.

7. Sukkilam (Suronitham)

Responsible for reproduction.

DIFFERENTIAL DIAGNOSIS

Gunmam should be differentiated from the following chronic disease of the Gastro intestinal tract which resembles Gunmam.

GUNMA SOOLAI

குன்மசூலை :

‘‘ தள்ளுகுன்மச்சூலைதனைச்சொல்லைக்கேளாய்
தளரும்மூத்திரஞ்சிக்கலாகி
வள்ளுவயிற்பொருமிசத்தியரைச்சல்மூர்ச்சை
வலித்தெரித்துச்சூலைபோல்வயிற்றிற்தூன்றி
தெள்ளுவாய்நீருறப்பமுண்டாம்
சிறுத்துமேஅசனமிகவெதும்பலாகி
அள்ளுமேயங்கமெல்லாமழற்சியாகு
மதிகமாயுடலுலரிந்தருசியாமே’’[40]

Constipation, retention of wine, bloating of the abdomen, borborygymes accompanied by vomiting, stabling pain in the abdomen excessive salivation,gastric evacuation, general emaciation, lower fever, dryness of the body

ஆமசூலை (அ) வயிற்றுச்சூலை:

“பரவுமேஆமசூலையின்குணந்தான்
பாவானஅசீரணத்தின்பண்பினாலுற்

தாவுமேதண்ணீர்தான்குடித்தாலுற்
தகுந்தபுளிப்புகசப்புத்தித்திப்பாலும்
ஊவுமேவயிறோடுவிலாப்பக்கங்கள்
உறவளர்ந்தமந்தமொடுசீதத்தாலும்
வாவுமேவயிறோடுவிலாப்பக்கங்கள்
வலித்துமேகடுப்புமிகக்குத்துண்டாமே"[41]

Indigestion intake of impure water intake of food which are excessive in sour. Bitter and sweet tastes and frequent starvation the seetham in the stomach is vitiated. The vitiated seetham causes dullness in the secretary and motility functions in the stomach. The vitalized Vatha disturbed the physiological functions of samanavayu as a result of which manifest the pain in the abdomen and hypochondrium. The pain is pricking in character.

FINAL DIAGNOSIS

After the confirmation of diagnosis of Gunmam, the type of the Gunmam is confirmed by comparing the identities and differences of the signs and symptoms and the results obtained by Envagai Thervugal, Nadi and Mukkuttram.

PROGNOSIS:

According to Noi nadal – Noi mudal Nadal part 1 Vayu Gunmam, Vali Gunmam, Eri Gunmam, Sathi Gunmam and Pitha Gunmam are curable.
Vatha Gunmam, Sanni gunmam and Iya Gunmam are the varieties which are hardly possible to cure.

According to Sathaga naadi and Kannusamiyam Gunmam associated with hiccup, dysnoea, diarrhoea, unconciosness are the signs of bad prognosis and leads to death.

MANAGEMENT (நோய்நீக்கம்)

The word noi neekkam is based on

1. To bring back altered three doshas in normal condition.

2. Treatment of the disease

3. Pathiyam (Diet restrictions)

The derangement of the doshas can brought back to normal condition by thefollowing line of treatment.

"விரேசனத்தால்வாதம்தாழும்"

"வமனத்தால்பித்தம்தாழும்"

"நசியஅஞ்சனத்தால்கபம்தாழும்"[42]

Vatha dosham can be brought down by Viresanam,
Pitha dosham can be brought down by Vamanam,
Kapha dosha can be brought down by Anjanam.

"தொடர்வாதபந்தமலாதுகுன்மம்வராது"[43]

Hence Vadha Dosham is the main cause for Gunmam. So it can be set right by giving viresanam.

For Viresanam strong purgatives like Nervalam content are usually avoided and mild laxatives can be given for this study. Any one of the following purgatives may also give.

a. Vellai Ennai: 15-30 ml early in the morning with hot water

b. Merugulli Ennai: 10-15 ml early in the morning with hotwater

According to the patients body weight and vigorous of the disease the selection of the purgative drugs and dosage may be altered.

TREATMENT OF ERIGUNMAM

After the Thiridhoshas are brought down to its equilibrium state, the signs and symptoms of disease should be treated properly.

For this study

Panchalavana vadagam – 1gm 2 times / day with hot water after food

In siddha system of medicine the adjuvant is one of the most important thing during therapy.

"அனுபானத்தாலேயவிழ்தம்பலிக்கும்
இனிதானசுக்குகன்னல்இஞ்சி
கோமயம்பால்முலைபால்
கோநெய்தேன்வெற்றிலைநீர்
ஆமிதையாராய்ந்துசெய்யலாம்"[44]

DIET & DIET RESTRICTIONS

"Prevention is better than cure " is the basic aim of all medical system. Siddhars had followed a rational and scientific way for prevention of illness.

Thiruvalluvar had mentioned in his "MARUNTHU ATHIKARAM" a 10 Kurals explains about the prevention of disease

"மருந்தெனவேண்டாவாம்யாக்கைக்குஅருந்தியது
அற்றதுபோற்றிஉணின்"

"மாறாபாடில்லாதஉண்டிமறுத்துண்ணின்

ஊறுபாடில்லைஉயிர்க்கு"[44]

"அற்றாலளவறிந்துஉண்கஅஃதுடம்பு
பெற்றான்நெடிதுய்க்குமாறு"

"அற்றதறிந்துகடைபிடித்துமாறல்ல
துய்க்கத்துவரப்பசித்து"[45]

During the course of treatment all the patients were given uniform hospital diet. The patients were also advised to avoid spicy food, sour, purgent food, fast food, non-veg diet and they advised to take timely food. There were advised to take easily digestible diet like steam cooked food, tender vegetables, cereals, butter milk, Greens, fruits and fruit juices.

- As irregular diet is the main etiological factor for Gunmam all the patients were chiefly advised to their food in times.
- They are advised to have well cooked cereals, green leafy vegetables pulse and rice.
- They are advised to get rid of spicy, tubers, food roughage diet, semi cooked and unhygienic diet.
- Patients were advised to avoid non vegetarian diet.

DITETIC FACTORS WHICH AGGREVATE ''GUNMA NOI''

- Tubers which will produce flatulence.
- Prolonged starvation.
- Hardly digestible foods.
- The frequent intake of hot foods.
- Untimely food.
- Unbridled sexual indulgence is considered to be predisposing factors.

Medical advice related with habits:

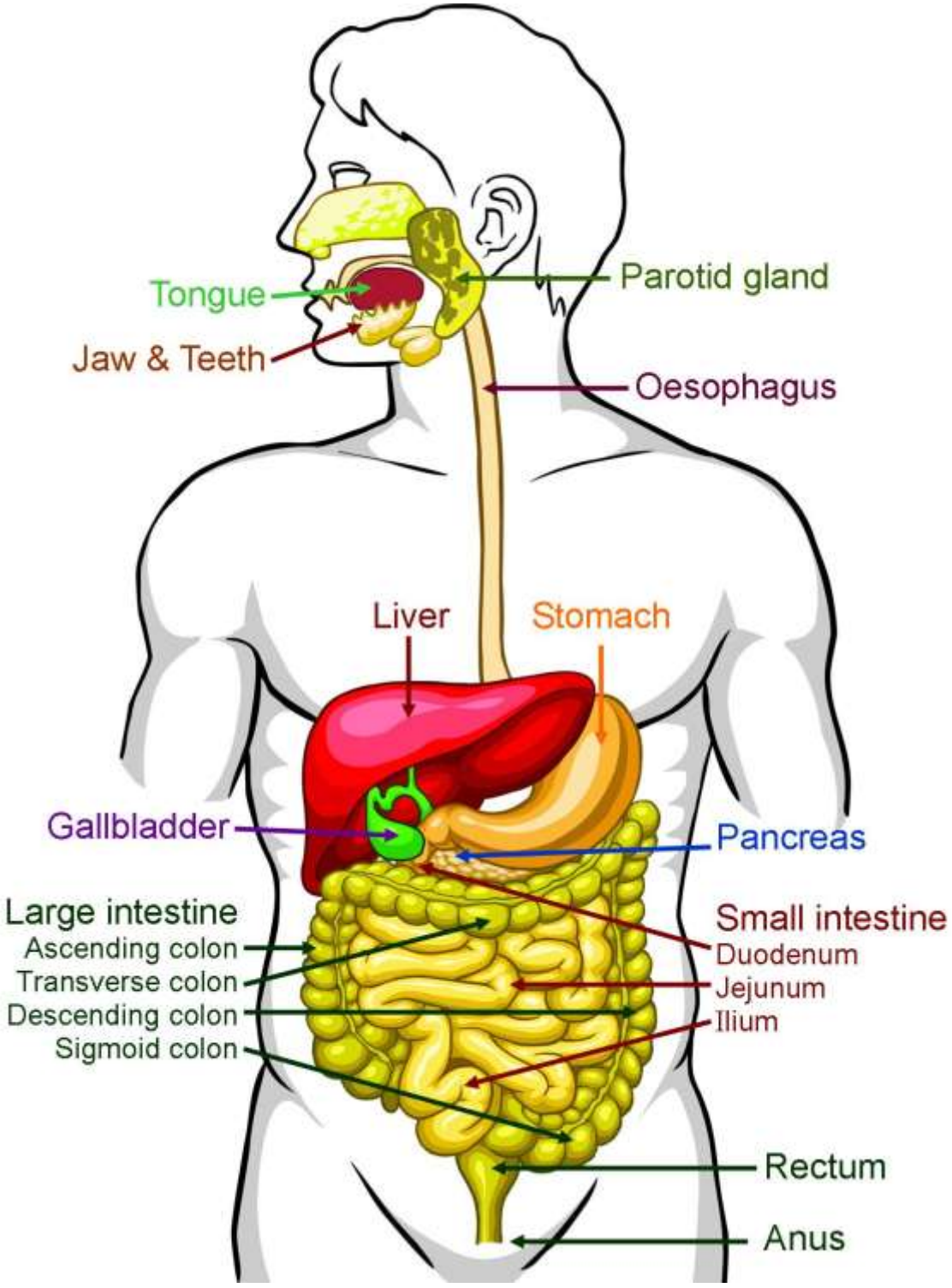
- Patients were advised to get rid of smoking, alcohol etc.
- Advised to have timely diet.

SPECIAL MEDICINE:

Yoga theraphy in the treatment of Eri Gunmam.

- Yoga is a system of siddha philosophy that requires intense mental and physical discipline as a means of attaining union with the unique spirit.
- A system of physical exercise and position used in yoga.
- A yogi under guidense of a Guru only goes through eight stages at training as the way to motcha.
- The Yogi taught disciplines and behaviours called Iyama.
- The Yogi taught self purification called Niyama.
- The following Yoga‟s are of beneficial effects in the treatment of Gunmam.
- **Virabradrasana**
- **Uradva Prasarita padasana**
- **Jathara Parvarthasa**

MODERN ASPECT



ANATOMY OF GASTRO INTESTINAL TRACT

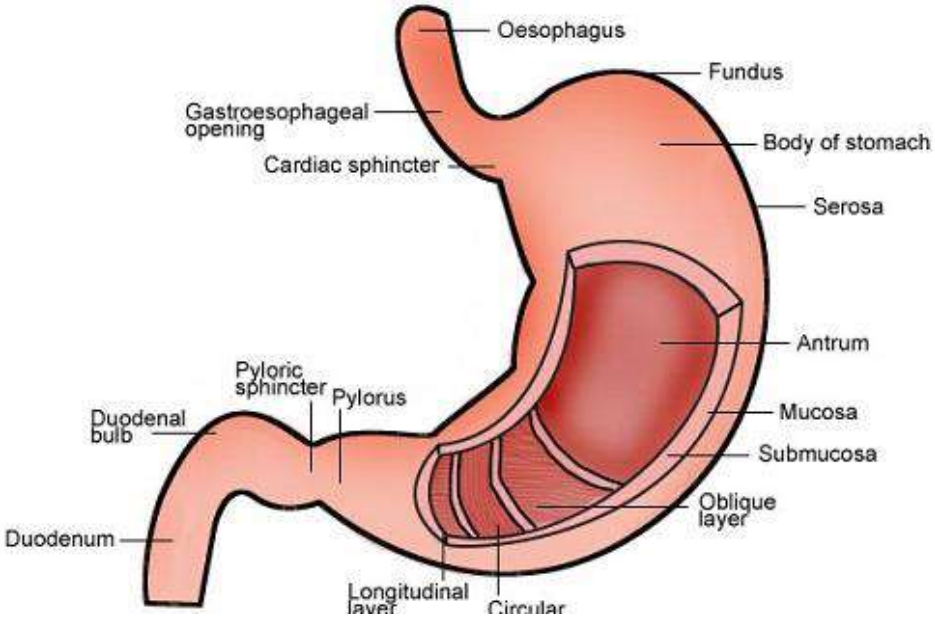
ASPECTS OF MODERN MEDICINE

STOMACH:

Anatomy:

Human gastro intestinal system includes oesophagus, stomach, small intestine, large intestine and rectum.The word stomach is derived from the Latin stomachus which is derived from the Greek word stomachos,which is derived from the Greek word stomachos,ultimately stoma''mouth''.The words gastro and gastric (meaning realated to the stomach) are both derived from the Greek word gaster.[46]

Stomach is the most dilated part of the digestive tube,and it is situated between the end of the oesophagus and the beginning of the small intestine.It lies in the epigastric,umblicus,and left hypochondrial regions of the abdomen,and occupies a recess bounded by the upper abdominal viscera, and completed in front and on the left side by the anterior abdominal wall and the diaphragm.



The stomach has two openings, two borders or curvatures, and two surfaces.

Openings—The opening by which the esophagus communicates with the stomach is known as the **cardiac orifice**, and is situated on the left of the middle line at the level of the tenth thorasic vertebra.The short abdominal portion of the esophagus(ANTRUM CARDIACUM) is conical in shape and curved sharply to the left,the vase of the cone vein continuous with the cardiac orifice of the stomach. The right margin of the esophagus is continuous with the lesser curvature of the stomach, while the left margin of the esophagus is continuous with the lesser curvature of the stomach, while the left margin joins the greater curvature at an acute angle,termed the incisura cardiaca**.**

The pyloric orifice communicates with the duodenum,and its position is usually indicated on the surface of the stomach by a circular groove, the duodenopyloric constriction. This orifice lies to the right of the middle line at the level of the upper border of the first lumbar vertebra.

Curvature:

The lesser curvature (curvatura ventriculi minor), extending between the cardiac and pyloric orifices, forms the right or posterior border of the stomach. It descends as a continuation of the right margin of the esophagus in front of the fibers of the right crus of the diaphragm, and then, turning to the right, it crosses the first lumbar vertebra and ends at the pylorus. Nearer its pyloric than its cardiac end is a well-marked notch, the incisura angularis, which varies somewhat in position with the state of distension of the viscus: it serves to separate the stomach into a right and a left portion. The lesser curvature gives attachment to the two layers of the heplatogastric ligament, and between these two layers are the left gastric artery and the right gastric branch of the hepatic artery.

The greater curvature (curvature ventriculi major) is directed mainly forward, and is four or five times as long as the lesser curvature. Starting from the cardiac orifice at the incisura cardiaca, it forms an arch backward, upward, and to the left:the highest point of

the convexity is on a level with the sixth left costal cartilage. Form this level it may be followed downward and forward, with aslight convexity to the left as low as the cartilage of the ninth rib: it then turns to the right, to the end of the pylorus.Directly opposite the incisura anglaris of the lesser curvature the greater curvature presents a dilatation,which is the left extremity of the pyloric part: this dilatation is limited on the right by aslight groove, the sulcus intermedius, which is about 2.5 cm, from the duodenopyloric constriction. The portion between the sulcus intermedius and the duodenopyloric constriction is termed the pulorid antrum. At its commencement the greater curvature is covered byeritoneum continuous with that covering the front of the organ.The left part of the curvature gives attachment to the gastrolienal ligament, while to its anterior portion are appaced the two layers of the greater omentum, sepatated from each other by the gastroepilploic vessels.

Surgaces:

When the stomach is in the contracted condition, its surfaces are directed upward and downward respectively, but when the viscus is distended they are directed forward, and backward. They may therefore be described as anterosuperior and postero-inferior.

Antero-superior Surface

The left half of this surface is in contact with the diaphragm, which separates it from the base of the left lung,the pericardium,and the seventh,eighth,and ninth ribs, and intercostals spaces of the left side.The right half is in relation with the left and quadrate lobes of the liver ad with the anterior abdominal wall. When the stomach is empty,the transverse colon may lie on the front part of this surface. The whole surface is covered by peritoneum.

Postero-inferior Surface

It is in relation with the diaphragm, the spleen, the left suprarenal gland, the upper part of the front of the left kidney, the anterior surface of the pancreas,the left cokic flexure, and the upper lauer of the transverse mesocolon. These struvtures form a shallow bed, the stomach bed, on which the viscus rests. The transverse mesocolon separates the

stomach from the duodenojejunal flexure and small intestine. The postero-inferior surface is covered by peritoneum, except over a small area close to the cardiac orifice: this area is limited by the lines of attachment of the gastrophrenic ligament, and lies in apposition with the diaphragm, and frequently with the upper portion of the left suprarenal gland.

Component Parts of the Stomach:

A plane passing through the incisura agularis on the lesser curvature and the left limit of the opposed dilatation on the greater curvature divides the stomach into a left portion or body and a right or pyloric portion. The left portion of the body is known as the fundus, and is marked off from the remainder of the body by plane passing horizontally through the cardiac orifice. The pyloric portion is divided by a plane through the sulcus intermedius at right angles to the long axis of this portion: the part to the right of this plane is the pyloric antrum.

Position of the Stomach:

The position of the stomach varies with the posture, with the amount of the stomach contents and with the condition of the intestines on which it rests. In the erect posture the empty stomach is somewhat J-shaped: the part above the cardiac orifice is usuallu distended with gas:the pylorus descends to the level of the second lumbar vertebra and the most dependent part of the stomach is at the level of the umbilicus. Variation in the amount of its contents affects mainly the cardiac portion, the pyloric portion remaining in a more or less contracted condition during the process of digestion. As the stomach fills it tends to expand forward and downward in the direction of least resistance, but when this is interfered with by a distended condition of the colon or intestines the fundus presses upward on the liver and diaphragm and gives rise to the feelings of oppression and palpitation complained of in such cases.

The position of the full stomach depends, as already indicated,on the state of the intestines:when these are empty the fundus expand vertically and also forward ,the pylorus is displaced toward the right and the whole organ assumes an oblique position,so that it’s surfaces are directed more forward and backward.The lowest part of the stomach is at the pyloric vestibule,which reaches to the region of the umbilicus.Where the

intestines interfere with the downward expansion of the fundus the stomach retains the horizontal position which is the characteristics of the contracted viscus.

Examination of the stomach during kife by x-rays as confirmed this findings, and as demonstrated that, in the erec posture, the full stomach usually presents a hook –like appearance the long axis of the clinical fundus being directeddownword,medial word, and forword toword the umbilicus, while the pyloric portion curves upward to the diodenopyloric junction

Interior of the stomach:

A common form is that shown in if the viscus be laid open by a section through the plane of its two curvatures,it is seem to consist of segments:(a) a large globular position on the left and (b) a narrow tubular part on the right.This correspond to the clinical subdivision of fundus and pyloric portion already described,and are separated by a constriction which indents the body and greater curvature, but does not involve the lesser curvature.To the left of the cardiac orifice is the incisura cardiac.

The projection of the notch into the cavity of the stomach increases the organ distends,and as been supposed to act as a volve preventing regurgitation into the esophagus.In pyloric portion are seen:(a) the elevation corresponding to the incisura angularis,and (b)the circular projection from the duodeno pyloric contriction which forms the ppyloric volve.The separation of the pyloric anturum from the rest of the ppyloric part is scarcely indicated.

The pyloric volve(valvula pylori) is formed by a reduplication of the mucus membrane of the stomach,covering a muscular ring composed of a thickened portion of the circular layer of the muscular coat.Some of the deeper longitudinal fibers turn in and interlace with the circular fibers of the valve.

Structures-The wall of the stomach consists of four coats: serous, muscular, areolar, and mucous, together with vessels and nerves.

The serous coat(tunica serosa) is derived from the peritoneum, and covers the entire surface of the organ,excepting along the greater and lesser curvatures at the points of attachment of the greater and lesser omenta: here the two laers of peritoneum leave a

small triangular space,along which the nutrient vesssels and nerves pass.On the posterior surface of the stomach, close to the cardiac orifice.there is also a small area uncovered by peritoneum, where the organ is in contact with the under surface of the diaphragm.

The muscular coat (tunica muscularis)is suituated immediately beneath the serous covering, with which it is closely connected.It consists of three sets of smooth musle fibers:longitudinal,circular and oblique.

The longitudinal fibers(stratum longtudinale)are the most superficial,and are arranged in two sets.The first set consist of fibers continuos with the longitudinal fibers of the esophagous:they radiate in a stellate manner from the cardiac orifice and are practically all last before the pyloric portion is reached.The second set commences on the body of the stomach and passes to the right,its fibers becoming more pickly distubutded as they approach the pylorus.Some of the more superficial fibers of this set pass on to the duodenum,but the depper fibers dip inword and interlace with the circular fibers of the pyloric volve.

The circular fibers(stratum circulare)form a uniform layer over the whole extent of the stomach beneath the longitudinal fibers.At the pylorus they most abundant and are agreegated into a circular ring, which projects into the lumen,and forms, with the fold of mucus membrane covering a surface,the pyloric volve.They are continuous with the circular fibers of the esophagus,but are shorply marked off from the circular fibers of the duodenum.

The oblique fibers(fibrae obliquae)internal to the circular layer,are limited chiefly to the cardiac end stomach,where they are disposed as a thick uniform layer, covering both surfaces,some passing obliquely from left to right,others from right to left,around the cardiac end.

The areolar or sub mucous coat (tela sub mucosa) consist of a loose,areolar tissue,connecting the mucous and muscular layers.

The mucous membrane(tunica mucosa) is thickened its surface is smooth,soft,and velvety.In the fresh state it is of a pinkish tinge at the pyloric end,and of a red or reddish-

brown colour over the rest of its surface.In infancy it is of a brighter hue,the vascular redness being more marked.It is thin at the cardiac extremity,but thicker toward the pylorus.During the contracted state of the organ it is thrown into numerous plaits or rugae,which,for the most part,have a longitudinal direction,and are most marked toward the pyloric end of the stomach,and along the greater curvature.These folds are entirely obliterated when the organ becomes distended.

Structures of the mucous membrane:

When examined with a lens,the inner surface of the mucous membrane presents a peculiar honeucomb appearance from being covered with small shallow depresens or alveoli,of a polygonal are exagonal form,which vary from 0.12 to 0.25 mm in diameter.These are the ducts of the gastric glands, and at the bottom of each may be seen one or more minute orifices, the openings of the gland tubes.The surface of the mucous membrane is covered by a single layer of columnor epithelium with occational globlet cells.This epithelium commences very abruptly at the cardiac orifice,where there is a sudden transition from the stratified epithelium of the esophagus.The epithelial linig of the gland ducts is the same character and is continuous with the general epithelial lining of the stomach.

The Gastric Glands:

The gastric glands are of three kinds:(a)pyloric,(b)cardiac, and (c)fundus or oxyntic glands.They are tubular in character,and are formed of a delicate basement membrane, consisting of flattened transparent endothelial cells lined by epithelium. The pyloric glands are found in the ppyloric portion of the stomach. They consist of two or three short closed tubes opening into a common duct or mouth. These tubes are wavy, and are about one-half the length of the duct. The duct is lined by columnar cells, continuous with the epithelium lining the surface of the mucous membrane of the stomach, the tubes by shorter abd more cubical cell which are fiely granular. The cardiac glands few in number, occur close to the cardiac orifice. They are of two kinds: (1)simple tublar glands resembling those of the puloric end of the stomach, but with short ducts: (2)compound recemose gland resembling the duodenal glands.The fundus glands are

found in the body and fundus of the stomach:they are simple tubes two or more of which open into a single duct.The duct, how ever in these glands is shorter than in the pyloric variety, sometimes not amounting to more than one-sixth of the whole length of the gland:it is lined throughout by columnar epithelium.The gland tubes are straight and parelel to each other.At the point where they open into the duct,which is termed the neck,the epithelium alters,and consists of short coloumnar or polyhedral,granular cells,which all most fill the tube, so that the lumen becomes suddenly constrickted and is continued down as a very fine channel.They aare known as the chief or central cells of the gland.Between these cells and the basement membrane , larger ovel cells,which is stain deeply with eosin,are found:these cells are studded through out the tube intervals,giving it a beaded or vericous appearance.These are known as the parietal or oxyntic cell,and they are connected with the lumen by fine channel which run into their substance.Between the glands the mucous membrane consists of a connective tissue framework,with lymphoid tissue.In places,this later tissue, especially early life, is collected into little masses, which to a certain extent resemble the solitary nodules of the intestine,and are termed the lenticular glands of the stomach.They are not, how ever, so distinctly circomescribed as the solitary nodules.Beneath the mucous membrane,and between it and the sub mucous coat,is a thin stratum of involuntary muscular fibre(muscularis mucosae),which in some parts consists only of a single longitudinal layers:in others soft two layers,an inner circular and an outer longitudinal.

Vessels and Nerves-the artery supply the stomach are

1)The left gastric

2)The right gastric

3)Right gastro epiploic branches of the hepatic

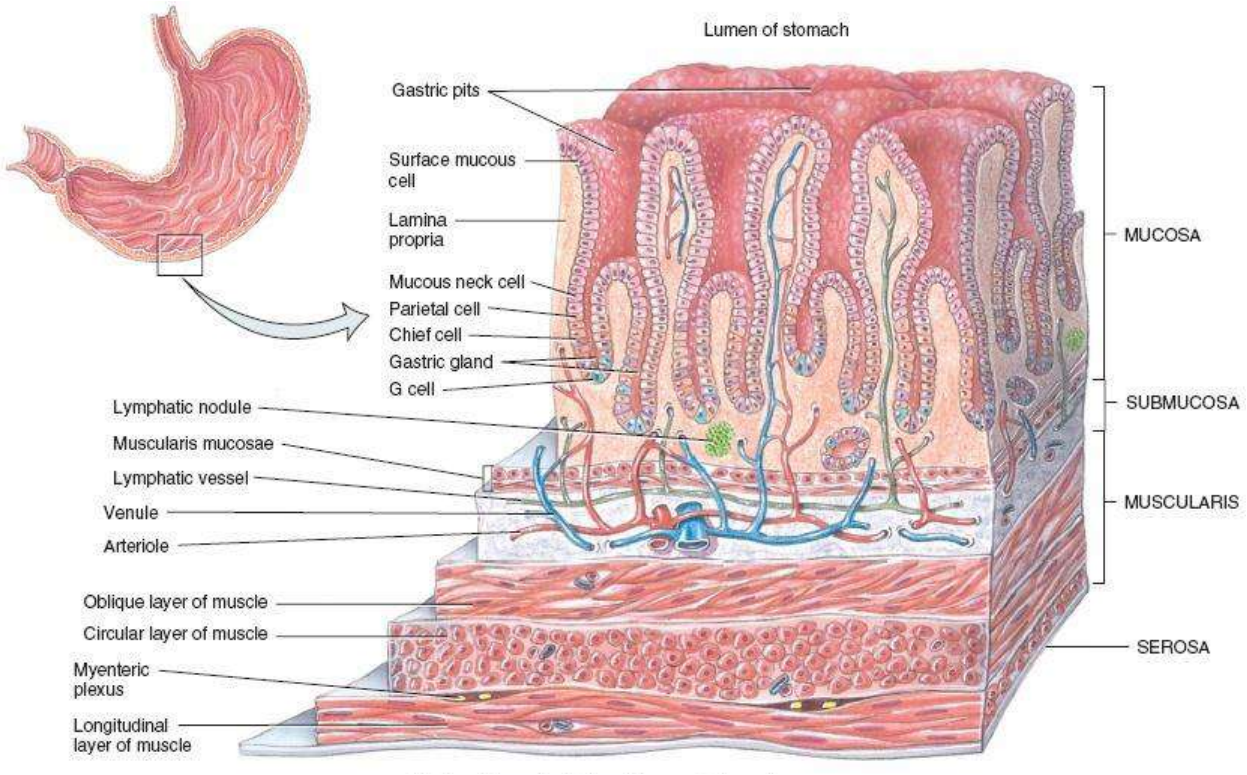
4)Left gastro epiploic branches of the hepatic

5)Short gastric branches of the lineal

They supply the muscular coat, ramify in the submucous coat, and are finally distubuted to the mucous membrane.The arrangement of the vessel in the mucous membrane is somewhat peculiar.The arteries breakup at the base of the gastric tubules into a plexus of fine cappularis which run upward between the tubles,anastomosing with

each other,and ending in a plexus of large cappularis, which surround mouths of the tubes,and also form exagonal meshes around the ducts.From these the veins arise, and pursue a straight course downward, between the tubules,to the submucous tissue:

HISTOLOGY

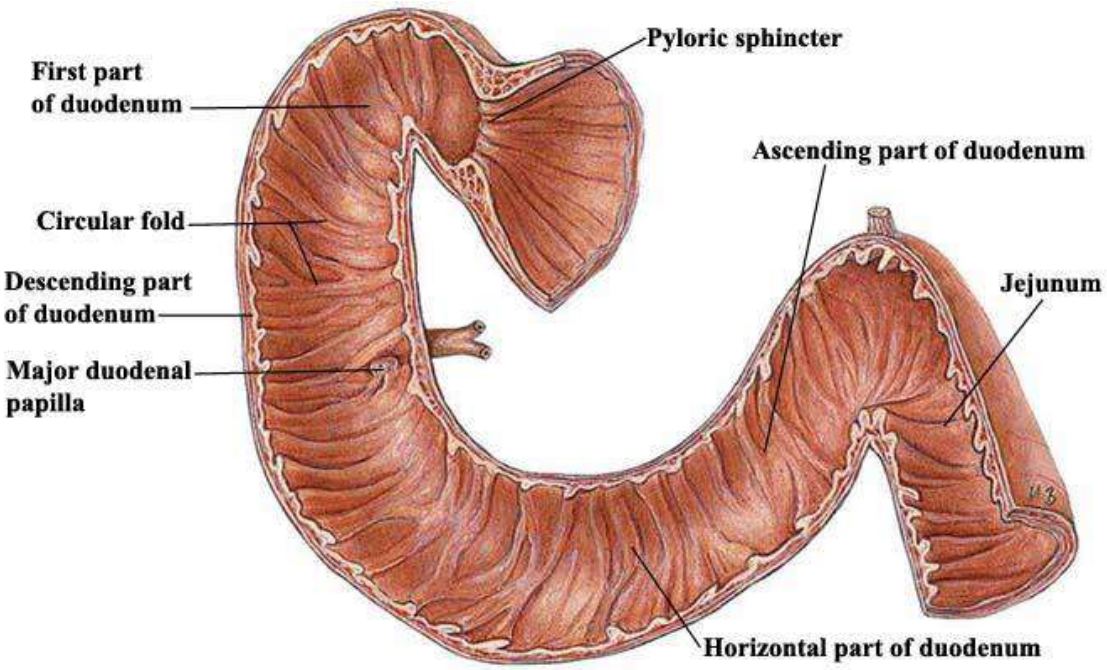


Anatomy of the duodenum

Location of the duodenum:

The duodenum lies in the upper abdomen,mainly in the epigastric region and extending into the umbilical quadrant of the abdomen. It starts at around the level of the L1 vertebra(superior part),runs downwards to the right of the L1 to L3 vertebrae (descending part), crosses the body of the L3 vertebra(inferior part)and the courses upwards on the

left of L3 and L2 vertebrae.Here it terminates at the duodenojejunal flexure which is about 2 to 3 cm to the left of the L2 vertebrae.[47]



The duodenum is the first of the three parts of the small intestines and continues from the pylorus of the stomach.It is the shortest part of the small intestine,measuring approximately 25 cms in length and is also most important site of digestion as the pancreatic enzymes and bile empty inti the duodenum.

The duodenum runs a C-shaped course cupping the head of the pancreas and terminates at the duodenojejunal junction (flexure) where the jejunum (second part of the small intestine) arises.It can be divided into 4 parts :

Superior part – approximately 5 centimeters long

Decending part -7 to 10 centimeters long

Inferior part - 6 to 8 centimeters long

Ascending part – approximately 5 centimeters long

Most of the duodenum is fixed in its position unlike the other parts of the small intestine that are fairly mobile.The duodenal papilla which is the opening of the hepatopancreatic ducts (bile + pancreatic ducts) is located in the descending part of the duodenum.

Blood supply to the duodenum:

Arterial blood supply is via the celiac trunk and superior mesenteric artery.The gastroduodenal artery arising from the celiac trunk and its superior pancreaticoduodenal branch supply the superior part of the duodenum and portion of the descending part proximal to the duodenal papilla.The inferior pancreaticoduodenal artery arising from the superior mesenteric artery supplies the portion of the duodenum distal to the duodenal papilla.

Venous drainage is via veins that correspond to the arteries and empty directly into the hepatic portal vein or indirectly via the spleenic and superior mesenteric veins.

Nerve Supply to the Duouenum:

Innervation lf the duodenum is vis the celiac and superior mesenteric plexuses with nerves derived from the vagus and greater and greater and lesser splanchnic nerves.

Lymphatic Drainage of the Duodenum:

Anterior lymphatic vessels drain into the pancreativoduodenal and pyloric lymphnodes, while the posterior lymphatic vessels drain into the superior mesenteric lymph nodes.Further drainage is into the celiac lymph nodes.

Applied Anatomy:

The gastric ulcers are common in the lesser curvature but much in the pyloric region.

A)Vesssels to the pyloric end of the stomach carry less blood compared to their size ,since they are branches of the hepatic than to the left gastric and they branch to the stomach from the splemic. The difference in the blood supply as regarded as one of the

factors responsible for the occurrence of larger percentage of gastric of ulcers towards the pyloric end of the mucosa.

b)There is no sub mucosal plexus. The occurrence of this type i.e.direct from the sub-serous vessels apparently increase from cardiac to the pyloric regions in man. Increased vagal tone can prodce marked constriction of the mcosl vessel of this region causing ischemia and necrosis.

c) Further musculature of the pyoric end is thicker and more powerful.

d)Anterior-venous anastomoses occurs in the gastro-duodena mucosa and disfanction is thee might lead to loca ischemia and ulcer formation.

RADIOLOGICAL ANATOMY:

The alimentary tract can be demonstrated raiologically by giving barium meal a watery suspension of barium sulphate and taking X-ray pictures aata regular intervals. The fundus of the stomach, the lesser and greater curvature and the angularis can be easily made out.

The barium meal passes into the first part of the duodenum and forms a homogenous triangular shadow called the duodena' cap,its base being directed towards the pylorus. The duodenal cap shadow is smooth due to the absence of mucous fold. Persistent deformity of the duodenal cap is characteristic of duodenal ulcer.

The pylorus protrudes in to the proximal half of the first part of duodenum which is kept patent and the barium fills it and this part casts the duodemal cap shadow.The reaining parts of the duodenum show a fifty it and this part casts the duodenal cap shadow. The remaining parts of the duodenam show a fifty shodow. But retrosperitoneal remains co::apsed the duodenal ulcer are more common in the first part of the duodenum.[48]

Physiology of the Alimentary Tract:

The alimentay trac is a co-ordinated structure with the function of ingesting and absorbing nutriens and excreting unabsorbed waste products. It should not be regarded as aseries of separate organs. Since the role of each component isclosely related to that of other parts of the tract. Its operation may be considered under the following heading.

1.**Controlling andCo-ordinating Mechanisms:**

The autonomic nervous system and harmones, includes gastrin, secretin and cholecystokinin(Pancreozgmin)controls and co-ordinaes and seretion.

2.Motility:

The carefully controlled moltility o the trct is responsible for the orderly progression of nutrients through the system so that the stage of digestion and absorption is appropriate to a given region of the tract.

3.Secretion:

The secretion of enzymesand detergents enables protein,carbohydrate nd fat to be digested before absorption. The secretion of eetrolytes provides the correct PH for each stage of digestion.

4.Absorption:

The absorptive system consists of specialized cells, together with the portal venous system and lymphatics.

5.Defence Mechanisms:

These are necessary to protect the mucosa fro its own digestive enzymes and from the bacterial population to which it is exposed. These mechanisms include a rapid turnover of the epithelial cells, the produvtion of mucous and a specialized imunoogical system.

6.Motility:

Apart from the striated muscle in the upper oesophages, smooth musce is responsible for the motility of the gastrointestinal tract. The smooth muscle produces “slow waves” hich are conducted over long distances. These do not result in contraction but they enable contractions in different areas to be co-ordinated.

Stomach:

The normal tonic contraction of the stomach is inhibited by the arrival of food probably by means of a centrally mediated vagal reflex. This termed receptive relaxtion so that a large increase in volume in accompanied by only small rise in pressure with the lumen. The gastric slow wave contros the equency and direction of antral peristalsis which is responsible for the through mixing of the gastric contents and their progressive emptying into the duodenum.

Several mechamisms exists to prevent the duodenum receiving more nutrient than it can deal with. Chemrecetors for fat and acid an osmoreceptors in the duodenal mucosa control gastric emptying by means of local reflexes and the release of secretin, choleccystokinin and other enteric hormones. Approximately half of a semi-solid meal levels the stomach in about 30 minutes.

Small Intestine:

Here the co-ordination is due to the slow wave in the longitudinal muscle fibres. It is he pacemaker which dictates the times at which any given segment of the gut can contrac. The frequency of the slow wave in the duodenum is greater than in the ilium, thus enabling the prominal bowe to override more distal areas.

Immunological system:.

The lamina propria of the stomach and the intestine contains many lymphocytes and plasma cells. Some of these cells sysnthesise secretary Ig A which is resistant to digestion by intestinal enzyme and has a role in protecting mucosal surface from bacterial invasion. It is thus of particular importance in the small intestine where bacterial colonization is deleterious.

THE SYMPTOMS OF ALIMENTARY DISEASE:

Pain is often the most important sysptom of gastrointestinal disease. It must be analysed in relation to its main site, radiation character, severity, duration, frequency, time of occurrence,aggravating and relieving factors and any associated phenomena.The

characteristics of abdominal of pain are often diagnostic for example in peptic ulceration and acute appendicitis.

Loss of appetite (anorexia) may be a local cause such as carcinoma of the stomach, but may also be a feature of any debilitating disease or due to psychological disturbance. Water brash is the sudden filling of the mouth with Saliva which is produced as a reflex response to a variety of symptoms from the upper gastrointestinal tract, e.g. peptic ulcer pain.

Vomiting may occur in diseases of the stomach or intestine. Vomiting of large quantities of food and secretions late in the day or night indicates gastric outlet obstruction. Vomiting which relieves pain is often due to a peptic ulcer.

Heartburn is a burning retrosternal sensation due to reflex esophagitis.

Regurgitation is the appearance of previously swallowed food in the mouth without vomiting. It usually has an acid or bitter taste because of the presence of gastric juice or bile but not in patients with obstruction in the eesophagus.

Dysphagia difficulty in swallowing.

Flatulence is often due to excessive swallowing of air (aerophagy) which in turn may be due to anxiety under normal circumstance a small anount air may be expelled as a belch. The remainder passes into the intestine. Some will be absorbed but most, particularly the nitrogen, will be expelled per rectum.

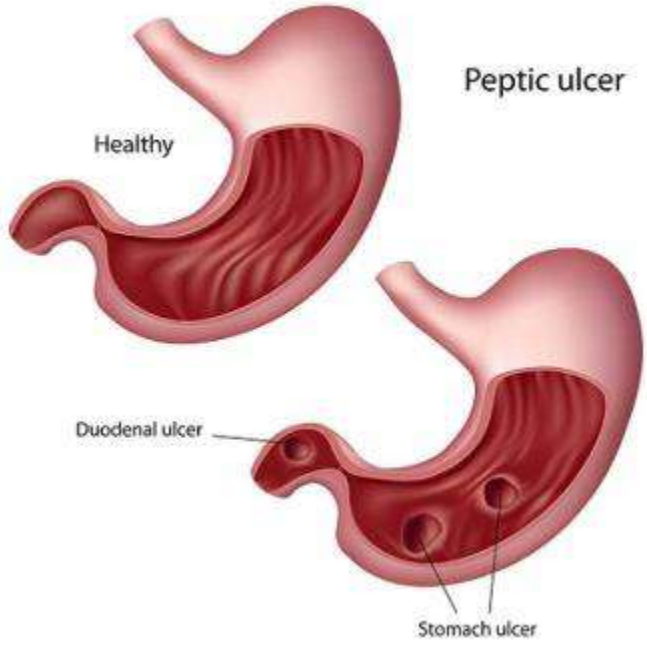
Constipation and **Diarrhoea** are sometimes difficult to define.

Loss of weight may be due to areduced intake of food because of anorexia nausea or vomiting to malabsorption of nutsients or to the loss of protein from a diseased bowel as in ulcerative colitis carcinoma is the most important alimentary cause of loss of weight. **Anaemia** Usually occur in massive hemorrhage or iin a non-observed passage of tarry stools.

PEPTIC ULCER

Definition:

The term'Peptic ulcer' refers to an ulcer in the lower oesophagus, stomach or duodenum, in the jejunum after surgical anastomosis to the stomach.Or rarely in the ileum adjacent to a Meckel's diverticulum,ulcers in the sstomach or deuodenum may be evidence of fibrosis. Erosions do not penetrate the muscularis mucosae.[49]



Other School of Thought:

Chronic peptic ulcer is by definition an ulcer that occur in those portions of the alimentary tract which come into contact with gastric juice. Peptic ulcer could occur in the lower portions of the oesophagus, the stomach, the duodenum, the jejunum and after gastroenterostomy in the lower duodenum and jejumum in the patients who are not operated but is a victim of the zolligner Ellison syndrome and in Meckel's diverticulum containing gastric mucosa. While "peptic ulcer' embrance all of these, we would suggest that in clinical usage designation for each lesion can be made according to its anatomic location, such as 'Gastric', 'duodenal', on 'jejunal'

There is no single etiologic factors responsible for this lesion and each factor that influences the final outcome acts only in a contributory capacity.

The incidence of peptic ulcer is decreasing in many western communities, it still affects approximately 10% of all adult males. The male to female ratio for duodenal Ulcer various from 4:1 to 2:1 in different communities while that for gastric ulcer is 2:1 or less.[48]

There is growing evidence that cigarette smoking prevents healing of gastric and duodenal ulcers and it may be a factor contributing to their development.

AETIOLOGY

Heredity

Patients with peptic ulcer often have a family history of the disease. This is particularly the case with duodenal ulcers which develops below the age of 20years. Gastric and duodenal ulcers are inherited as separate disorders: thus the relatives of gastric ulcer patients have three times the expected number of gastric ulcers but duodenal ulcer occurs with the same frequency amongst relatives as in the general population.[50]

Acid-pepsin Versus mucosal resistance

The immediate cause of peptic ulceration is digestion of the mucosa by acid and pepsin up the gastric juice, but the sequence events leading to this is unknow. Digestion by acid and pepsin cannot be the only factor involved, because the normal stomach is obviously capable of resisting digestion by its own secretions. The concept of ulcer aetiology may b written as acid plus pepsin versus mucosal resistance. Some factors which affect this balance can be identified.

Gastric Hypersecretion:

Ulcers occurs only in the presence of acid and pepsin: they are never found in achlorohydric patients such as those with pernicious anemia. On the other handsevere intractable peptic ulceration nearly always occurs in patients with the zollinger-Ellisson

syndrome which is characterized by very high acid secretion. Acid secretion is more important in the actiology of duodenal than gastric ulcer, because patients with duodenal ulcer, as a group, secrete more hydrocholoric acid normal individuals.

Factors Reducing Mucosal Resistance:

Several drugs particularly those used in Rheumatoid arthritis will disrupt the gastric mucosal barrier when aspirin is in solution at a PH below 3.5,it is undissociated a and fat-soluble, so that it is absorbed through the lipoprotein membrane of the surface epithelial cells: during absorption damages the membrane and the tight junctions. It also inhibits prostaglandin synthesis thus reducing bicarbonate secretion by the surface epithelial cells. Aspirin has beeb shown to be ab important actiological factors in gastric ulcer. There is also a relationship between aspirin ingestion and acute bleeding from the upper gastrointestinal tract.

Reflux of bile and intestinal secretions into the stomachoccurs more frequently in patients with gastric ulcers than in normal individuals or patients with duodenal ulcer, due presumably to a poorly functioning pyloric sptineter.Bile damages the gastric mucosal arrier, predisposing the mucosa to ulceration chronic gastritis is more common in patients with gastric ulcer and it may be caused by damage from regurgitated bile and intestinal secretions.

Occupational Factors:

The occupational survey carried out by hussian from Hyderbad reported that 60%duodenal ulcer cases were in farmers. It may be trace that peptic ulcer is commonamong south Indian agriculturists. It is also common is executives,doctors and industrialists.

Diet:

Peptic ulcer is associated with high consumption of refined as compared with unrefined cereal carbohydrate. The lack of protein deficient diet and untimely meals in

these refined food resulting in a failure to butter gastric acid ingestion of refined cereals is the prominent factors in the increased incidence of duodenal ulcer.

Smoking, Alcohol and Drugs:

Incidence of peptic ulcer is high among smokers than among non-smokers. Gastric ulcer tend to heal more rapidlyin patients who step smoking than in those who do not smoking decreases the therapy. All these facts suggest that it is an actiological factor in the development of peptic ulcer. Gastric ulcer commonly occurs in association with alcoholic cirrhosis. There is much suggestive evidence that treatment with aspirin. Phenylbuto yona etc. may aggravate peptic ulcer incidence.

Blood Groups:

Peptic ulcer tends be more common in people with blood group ’o’ Gastric ulcer tends to be more common in people with Blood Group “A’

Association with Anxiety and personality:

People who are highly nervous and emotional and who worry, fear and feel anxiety are particularly suscesptible. These emotional and nervous factors in turn may lead to hyper secretion and hyper mobility of the stomach the nerous control of the vascular system in the gastric on duodenal walls may be so disturbed that there is diminision in the blook supply to the mucosa of the stomach and duodenum making its susceptible to acid secretion.

Association with other Diseases:

Peptic ulcers in association with almost all diseases, the incidents is noted inpatients with Achlohydia namely pernicious Anaemis and Atrophy Gastritis Gastric Carcinoma, Diaphargmatic,Herinia, Duodenal stases,emphasema, corpulsmonale and Rheumatoid disease, Cirrosis of liver, Tuberculosis.

Pathology:

Chronic gastric ulcer is usually single: 90%are situated on the lesser curve within the antrum or at the junction between body and and antral mucosa, chcer is usually in the first part of thechronic duodenal ulcer is usually in the first part of the duodenum just distal to the junction of pyloric and duodenal mucosa: 50%are on the anterior wall, more than one peptic ulcer is found in 10-15% of patients acute ulcers on erosions are frequently multiple, and are more widely distributed.[51]

Clinical Features:

A duodenal ulcer follows a chronic course for upto 20years and while the treatment with histamine H2-receptor antagonist drugs may effect prompt healing, there is no evidence that the natural history of the ulcer is affected. The course of gastric ulcer is probably less chronic. While there are good grounds gor believing that gastric and duodenal ulcers are different deceases it is convenient to describe the general features of "Peptic Ulcers" as inclusive of both, there is no difference in their occurrence.

Peptic ulcer may be present in different w. however, the ulcer may come toaways. The commonest is chronic, episodic pain extending over months over on months or years. However , the ulcer may come toa attention as an acute episode with bleeding or perforation, with little or no previoushistory, occasionally the patient presents with the symptoms of gastric outlet obstruction, having negligible trouble previously.

Pain is the characteristic symptoms of peptic ulcer, and it has three notable features, localization to the epigastrium,relationship to food and periodicity.

Ulcer pain is typically referred to the epigastrium it is localized uaually in the acid line or to the right. So that the patient can indicate the site with one finger,'the pointing sign'. Occasionallly ulcer pain is not clearly localized, it may e referred diffusely in the epigastrium, the lower chest or to the back in the interscapular region in the fifth to eighth thoracic segments.

Pain referred to the inter scapular area suggests duodenal or post bulbar ulceration. The description of the pain is not eapecially helpful, although patients commonly describe it as gnawing or burning.

Most patients recognized a relationship of the pair to the food, although the relationship varies between patients, and in the same patients, and in the same patient from time to time. Duodenal ulcer pain tends to occur between meal times, so that the patient may describe it as ‘hujger Pain, which is characteristically relieved by fook. A notable feature of duodenal ulcer is pain awakening the patienr from sleep 2 to 3 hours after refising. The pain of gastric ulcer occurs less regularly: it frequently occurs within an hour of eating, is less often relieved by food and it rarely occurs at night. Besides the characteristic relief obtained after eating, ulcer pain is almost invariably relieved by antacids or by vomiting.

Ulcers pain is characteristically episodic occurring regularly then disappearing to rrcover ulcers or months later. Between attacks, the patient feels perfectly well, and may eat and drink with impunity. bouts of pain may at first last only a day os so at a time,and occur only once or twice a year. As the natural history evolves,however episodes begin to last longer and occur more frequently, so that in severe cases remissions of pain may be short lived and pain or discomfort becomes more or less persistent. The cause for these relapses is difficult to be established seasonal factors may be operative, sometimes psychological stress may be blamed, sometimes,dietary indiscretion and sometimes alcohol in excess. Most commonly no reason can be found for the relapse.

Pain is sometimes absent or so slight as to be described by the patient. Such epigastrium or a poorly defined sense of unease after eating. Other complaints include episodic nausea and sometimes anorexia, as well as heartkburn or water brash vomiting in clear patients almost always relieves pain and when it is persistent may result in weight loss. This helps to distinguish it from vomiting of psychological origin, in which weight is usually maintained. Persistent vomiting in an ulcer subject usually indicates some degree of gastric narrowing. In such patients, vomiting is usually copious,so that the patient is “surprised” at the volume,the patient often recognizes food ate twelve on more

hours previously.Although there is no constant change in bowel rhythm during an ulcer relapse,some patient are aware of constipation or diarrhea when dyspepsia reappears.

Physical signs:

The only physical sign that may be present is 'the pointing sign' which,when accompanied by localized tenderness,is practically diagnostic of an ulcer.However, tenderness may be completely absent,in patients with gastric outlet obstruction,the stomach may be visibly distended,a succession splash may be present and gastric peristalsis may be seen.

Effect of Diet,Drugs,Tobacco and Alcohol:

There is no evidence that dietary manipulation affects the symptoms on ulcer healing and therefore strict diets should be avoided.It is particularily important that aspirin and other anti inflammatory drugs are not used in peptic ulceration.Their is no evidence that shopping smoking accelerates the healing of gastric ulcers and it is likely to be applied to duodenal ulcers patients should therefore be adviced to give up smoking exacerbrations of ulcer disease because it aggravates their symptoms.It seems reasonable to encourage moderation in drinking habits in all patients with peptic ulceration..

Complication:

Complications of peptic ulcer are hemorrhage perforation and gastric out let obstruction and ulcer cancer.

Gastric duodenal Hemorrhage:

Gastro duodenal hemorrhage is recognized by haematenesis(vomiting of blood)and or melaena (passage of blood in the stools) and usually there are symptoms of hypovolaemia.Upper gastro intestinal haemorrhage carries a mortality that may reach 30%in elderly and shocked patients. A history of significant blood loss wihin the previous 48 hours should lead to immediate admission to hospital.

Aetiology:

The common causes of bleeding are chronic gastric and duodenal ulcers (50%) erosins (15-30%) oesophageal varices (10%)and mucosal lacarations at the cardia due to vomiting (Malloryweise syndrome-7%). Less frequent cause are cancer of the stomach and other tumours such as leiomyoma. Oesophagitis, stress ulcers and bleeding disorders.

Erosins are usually caused by the ingestion of aspirin either alone or in combination with alchohol or non-steroidal anti-inflammatory drugs. In some patients the stomach shows petechiae. Multiple erosins and areas of confluent muosal bleeding, this appearance is called acute haemorrhagec gastritis. The usual presentation of strees ulcer, caused by burns or head injury, is with heamatemesis and melaena.[52]

CLINICAL FEATURES:

In severe bleeding from whatever cause, the patient complaints of weakness , faintness, nausea and sweating, these symptoms are followed by haematemeses or melaena with a sudden large bleed whereas melaena alone indicates that bleedg is slower and less in amount. It blood remains in the stomach it becomes partially digested and appears brown and granular in the vomit or gastric aspirate, like, coffee grounds blood passing through the intestinal canal is also altered in appearance, so that the faces become black and sticky, a 'tarry' stool. But is in severe bleeding transit may be so rapid that the blood in the rectum is bright red. On examination, the patient ma be shocked on restless and disorientated because of cerebral anoxia. These signs may be absent in the young patient in whom compensatory mechanism are more effective.

Acute Perforation of a Peptic Ulcer:

When free perforation occurs, the contents of the stomach escape into the peritomeal cavity. It perforation occurs without loss of contents as in the accidental perforation of the empty stomach at gastroscopy, few symptoms are produced and the accident may even pass unnoticed. It follows that the symptoms of perforation are those of peritomitis, and they are in proportion to the extent of peritoneal soiling. Occasionally

the symptoms of perforation appears and rapidly subside, pre sumably the perforation has then closed spontaneously, or more commonly the ulcer has perforated locally into an area confined by adhesions to adhesions to adjacent strucrures. Pertoration occurs more commonly in duodenal than in gastric ulcers ad usually in ulcers on the anterior wall. About one quarter of all perforations occur in acure ulcers.

Acute perforation carries a mortality of about 5%. The outlook is poorest in elderly patients. When a large perforation results in extensive peritonitis on when operation is delayed.

Gastric Outlet obstructions:

An ulcer in the region of the pylorus may result in gastric outlet obstruction. This may be due to fibrous structure or to oedema or spasm produced by the ulcer, frequently it is a combination of all three, Long-standing obstruction may lead to severe.'Retention gastritis' on even the secondary gastric ulcer.

In addition to chronic duodenal ulcer, or benign gastric ulcer at or near the pylorus, gastric outlet obstruction may be caused by carcinoma of the antrum and by a rare condition kown as adult hypertrophic pyloric stenosis.

The syndrome of gastric outlet obstruction is loosely described as 'pyloric stenosis'. Even whe the cause is chronec duodenal ulcer, and the stenosis is distal to the pylorus thus in "Pyloric"obstruction due to duodenal stenosis, the pylorus itself may be seen radiologically to be greatly dilated.

Clinical Features:

Symptoms o obstruction are usually preceded by a long history of duodenal ulceration. Without such symptoms, a patient with gastric outlet obstruction is likely to have a pyloric carcinoma when there has been an ulcer, the symptoms change,so that vomiting produces such striking relief that a patient may start to eat immediately after the stomach has been emptied. If the obstruction progress, the stomach dilates so that,

eventually, surprisingly largely amounts of gastric content may be vomited. Particles of food which have been eaten 24 hours or more previously may be recognized in the vomit.

An earlier symptom is the the blood urea may be raised because of sense of repletion soon after eating relatively small amount of food. The loss of gastric contents results in water and electrolyte depletion. The blood urea may be raised because of dehydration alkalosis develops if large amounts of hydrochloric acid are lost, as occurs particularly in obstruction due to duodenal ulcer.

Zollinger-Ellison Syndrome:

This is a rare disorder in which severe peptic ulceration occurs due usually to an adenoma or hyperplasia of the islets of the pancreas secreting large amount of gastrin which stimulates the parietal cells of the stomach excessively. The acid output may be so great that the 'acid tide'may reach the upper small intestine, reducing the luminal PH to 2 og less at the pH pancreatic lipase is inactivated and bile acids may be precipitated causing diarrhea and steaforrhoea. Excessive gastric secretion results in large volumes on aspiration under 'basal' conditions. Pentagastrin does not increase the secretary rate much above 'basal', values, since the stomach is already continosly secreting at or near nominal rates.

Clinical Features:

The ulcers are often multiple and severe and may occur in unusual sites such as the hehunan or the oesophagus. The history is usually short and bleeding and perforation are common. The syndrome may present form of severe recrurrent ulceration following a standard operation for peptic ulcer, the underlying cause not having been recognized.

The diagnosis should be suspected in all patients with unusual or severe peptic ulceration especially coarse barium meal examinarion shows abnormally coarse gastricmucosal tolds.It may be confirmed by finding very high levels of gastrin in the circulation.

Complication following Gastric Surgery:

Although most operations carried out for the relief of peptic ulcer are successful, 10%of patients will develop complications months of years afterwards. Some of these such as anaemea and nutritional impairment, develop insidiously such patients should be reviewed atleast once in a year.

Recurrent ulcer, after surgery for duodenal ulcer, it is usually due to insufficient reduction of the secretary capacity of the stomach because of incomplete vagaotomy or inadequate gastrectomy. A jejuna ulcer develops just distal to the jejunogastric anastomosis, becarse the jejuna mucosa is more susceptible to acid-pepsin digestion than gastric or duodenal mucosa. About 15% of selective vagotmy but the operation has the virtue of being free from the side effects associated with resection truncal vagotomy or drainage procedures.

Anaemia is a common seqel to operation on the stomach, particularly partial gastrectomy, due to inadequate absoption of iron, or to recurrent minor blood loss from gastritis or oesophagitis.

Nutritional impairment and osteomalacia. In a small propotion of patients there is some nutritional impairment following gastric surgery.[53]

DIFFERENTIAL DIAGNOSIS:

1.Chronic intestinal Amoebiases:

History of recurret dysentery, caecum and pelvic color aare tender and cord like, liver may be palpable and tender, stool may show cysts of entamoeba histolytica.

2.Chronic cholecystitis:

There may be history of biliary colic and jaundice in the past, murphy's sign is positive. Rarely gull bladder may be palpable. Chlocytography settles the diagnosis by showing dysfunction of the gall bladder with or without stone.

3.Chronic Appendicitis:

There may be history of acute appendicitis in the past, Mcburney's point is tender, F.T.M. and barium meal x-ray of appendix may show irregularity or no filling.

4..Chronic Gastritis:

There is anorexia, discomfort in the upper andomen without any definite tenderness, F.T.M. shows low acid but excess of mucous in all samples, barium meal x-ray shows coarse or tine gastric rugae.

5.Chronic Pancreatitis:

There may be history of acute pancreatitis in the past, pain radiating to the back may be present without definite relation with food. Steatorrhoea and diabetes mellitus may be present, X-ray of the abdomen may reveal pancreatic calcification.[54]

SPECIAL INVESTIGATIONS:

1.Endoscopy:

In recent years endoscopic photography, both still and motion, has become possible and gives excellent pictures. The flexible fibroscope now enables one to examine the oesophagus, stomach and duodenum and at the same time obtain biopsies and material for cytological examination.

It is used I diagnosis purpose for the oesophagitis, oesophageal ulcer, gastric ulcer, duodenal ulcer, duodenitis malignant cancer, biopsy can also be obtained to find out in gastric ulcer is benign or malignant.

2.Fractional Test Meal:

The patient who was on starvation during the previous night is asked to swllow the ryles tube at 5a.m. and the entire stomach contents a fasting juice are aspirated with a donel, record syringe. The patient is them given a pint of warm gruel to drink the gruel is

prepared by boiling two table spoonfuls of the oatiomeal in two pints of water until the quantity is reduced to on pint. Every 15ml of gastric contents is now aspirated until 21/2hours have elapsed or until such time as 15ml can no longer be aspirated. These samples are examined for total acidity, free Hcl, bile , blood, mucous, and starch and the results recoded on a chart in a gastric ulcer, the cures of tree hel, and total acidity are high, normal or just above the normal limit. Blood may be present in some of the specimen. The climbing curve is due to pylorospasm which prevents regurgitation of bile or allows the acidity to rise continuously. Besides carcinoma achlorhydria is found in pernicious anaencia, gastritis, chronic appendicitis, etc, but association or blood in all the specimen is strongly suggestive of a carcinoma.sometimes cancer cells can be demonstrated into washing after gastric lavage.

This test is no more needed to make correct diagnosis of peptic ulcer except to exclude the role of vagatomy during surgical management.

3.Examination of stool:

Black and farry stool melana is well known in a peptic ulce when the haemorrhage is large. Small hemorrhage need special chemical test for detection.

4.Radiological features of peptic ulcer(Barium Meal series)

Peptic ulceration only occurs in those parts of the alimentary canal which are bathed in the acid and pepsin secretions. The radiological features of peptic ulcer varies from a mild erosion to a malignant ulcer.

Although in clinical experience duodenal ulcer are for more frequently than gastric ulcers in the ratio of 10 or 20 to 1 they are approximately equal.

ROENTGEN SIGNS OF ULCERATION:

The presence of a ‘fleck’ or crater. This sign represents the presence of barium and is regaraded as essential for the diagnosis.

Changes in the Neighbouring Rugae:

These are cedema, irregularity end the cart wheel appearance in which the rugae radiate from the fleck or crater.

Functional changes such spasm, increase in peristalsis or irritability are common.

Characteristics Associated with the site of Ulceration:

Ulcers in the body of the stomach are more prevalent along the lesser curvature ulcers of the greater curvature are rare.

Mucosal Relief with small amount of Barium shocos:

1.Barium spot or fleck.

2.Edematous mucosa at base

3.Radiating rugae

4.Coarse rugae often there

5.When capped by air miniasn in correct position suspect penetration.

6.When seen in profile it is an out pouching 10^{th} a broad kbase. Most often on lesser curvature. But requires flourscopy in every degree of obliquity for demonstation.

Radiological Features of Malignant Gastric Ulcer:

Irregulrity in mucosa adjoining ulcer niche.

1.No peristalsis here

2.The Niche does not entered eyond the line of stomach.

3.Associated duodenal ulcer usually indicated the gastric ulcer is bebingn.

4.Ulceration of greates curvature is usually malignant.

A less common site for ulcers is the pyloric but even here it tends to occur along the lesser curvature. This ulcers produces a gastric stasis.

Duodenal ulcers:

The common site for duodenal ulcer is in the duodenal cap and they may occur on either the anterior or posterior walls less frequently post bulbar area.

Radiological Features are:

a.Acute penetrating as erosive stage

1.Ulcer Niche

2.Edematous Mucosal Hallow

3.Thick pyloric Rugae

4.Spastic

b.Beginning scar formation:

1.Ulcer Niche

2.Thickened surrounding mucosa

3.Rugae converting like cart wheel spokes

4.Pseudo diverticulum formation

5.Bulb may appear fragnated on compression.

c.Late scaring stage:

1.Niche or pscudo divertiulum

2.Contracted deformed fibrotic bulb rigid walls

3.Thick pyloric rugae.

Post bulbar ulcers shows deformed bulb[55]

TRAIL DRUG

பஞ்சலவண வடகம்

ஆதாரம் : வைத்திய திரட்டு (பக்க எண் :112)

தேவையான சரக்குகள்:

சுத்தித்த இந்துப்பு	-1 பலம்
சுத்தித்தவளையலுப்பு	-1 பலம்
சுத்தித்த சோற்றுப்பு	-1 பலம்
சுத்தித்த கல்லுப்பு	-1 பலம்
சுத்தித்த பொட்டிலுப்பு	-1 பலம்
சுத்தித்த நவாச்சாரம்	-1/2 பலம்
ஒமம்	-1 பலம்
கோட்டம்	-1/4 பலம்
திப்பிலி	-1/2 பலம்
திப்பிலி மூலம்	-1/2 பலம்
பூண்டு	-2 பலம்
பெருங்காயம்	-1/2 பலம்
பனைவெல்லம்	-10 பலம்

செய்முறை :

மேற்கண்ட சரக்குகளை இளவறுப்பாக வறுத்து சூரணித்து பின் கல்வத்திலிட்டு பூண்டு மற்றும் பெருங்காயம் சேர்த்து அரைக்கவும்.பின்பு பனைவெல்லத்தை சிறிது சிறிதாக சேர்த்து அரைத்து பக்குவம் வந்தவுடன் சேகரித்துக் கொள்ளவும்.

அளவு:

தேற்றாங்கொட்டை அளவு(1 கிராம்)

உண்ணும்முறை:

வெந்நீரில் 1 மாத்திரை வீதம்இருவேளை

கால அளவு :

30 நாட்கள்

தீரும் நோய்கள் :

எண்வகை குன்மம்

ஆதாரம் :

வைத்திய திரட்டு (பக்க எண் :112)[56]

PROPERTIES OF TRIAL DRUGS

INDHUPPU

CHEMICAL NAME: Sodium chloride impura, Rock salt.

ACTIONS:

- Carminative.
- Laxative.
- Stomachic[57]
-

VEDIUPPU

CHEMICAL NAME: Potassium nitrate

ACTIONS:

- Diuretic,

- Refrigerant.

PROPERTIES:

சூதக வாயுவோடு சோணிதத்தின் வாதமும்போம்

வாதவலி குன்மமிவை மாறுங்காண்

- **Gunmam**
- Soothaga vaayu

NAVAACHARAM

CHEMICAL NAME: Ammoni chloridum

ACTIONS:

- Diuretic.

PROPERTIES:

- **Gunmam**

KARIUPPU

CHEMICAL NAME: Sodium chloride

ACTIONS:

Laxative.

Stomachic[58]

PROPERTIES:

- Gunmam.

VALAIYALUPPU:

CHEMICAL NAME : SODIUM SILICATE

ACTIONS:

Stomachic[59]

Anthelmintic

KALLUPPU:

CHEMICAL NAME : SODIUM CHLORIDE

ACTIONS:

Stomachic[60]

Anthelmintic

OMAM :

BOTANICAL NAME : *Trachyspermum ammi*(L.)Sparague(Fruit)

ACTIONS :

Stomachic[61]

Antispasmodic

Carminative

Tonic

THIPPILI:

BOTANICAL NAME : *Piper longum* L.

ACTIONS:

Carminative[62]

KOSTAM :

BOTANICAL NAME : Saussurea costus

ACTIONS :

Stomachic[63]

Tonic

POONDU :

BOTANICAL NAME :*Allium sativum*L**.**

ACTIONS :

Carminative[64]

Stomachic

Anthelmintic

Tonic

PERUNGAYAM :

BOTANICAL NAME : Ferula asafoetida L.

ACTIONS:

Carminative[65]

Anthelmintic

Anti spasmodic

TRAIL DRUG

PANCHA LAVANA VADAGAM

KARIUPPU

NAVACHARAM

VEDIUPPU

INDHUUPPU

VALAYALUPPU

KALLUPPU

THIPPILI

POONDU

PANAIVELLAM

KOSTAM

THIPPILI MOOLAM

OMAM

PERUNGAYAM

PANCHA LAVANA VADAGAM

MATERIALS AND METHODS

MATERIALS AND METHODS

PROTOCOL

Study Designs

An open clinical trail on **Eri Gunmam** was carried out in the post graduate department of maruthuvam in Arignar Anna Hospital of Indian Medicine attached with Govt.Siddha Medical Colleg Chennai – 106 during the period of 2014 – 2016

The study was approved by Institutional Ethics Committee (IEC) and the approval number is **IEC No :GSMC-CH-ME-3/007/2014**.The study was registered in Clinical Trials Registry – India (CTRI) and the reference number is **REF/2016/06/011554.**

Sample size

The study is conducted in 40 selected Eri Gunam patients of both genders between age groups of 18 to 60 years.

SELECTION OF PATIENTS

Inclusion criteria

Cases were selected on the basis of the following signs and symptoms

- **Age:18-60 years**
- **Sex :Both.**
- **Epigastric pain and burning with relation to food**
- **Nausea**
- **Vomiting**
- **Anorexia**
- **Bloating and fullness of stomach**
- **Diarrhoea**
- **Weight loss.**

Exclusion criteria

- Duration of illness more than 10 years
- Known case of pyloric stenosis
- Known case of cancer in the stomach
- Known case of acute abdominal colics
- Known case of cholelithiasis
- Known case of ulcer perforation.

INVESTIGATIONS

Routine laboratory investigations done in the out-patient department of Government Arignar Anna Hospital of Indian Medicine, Chennai-106.

Special Investigations like Endoscopic examination was made on the disease Eri Gunmam (Peptic Ulcer) for all patients, according to the duration of the illness (1 years to 3 years). Blood group of the patients also tested.

Based on the signs and symptoms, investigations, diagnostic methods based on Siddha aspect like Envagai thervugal, mukkuttra nilaigal, seven udal kattugal, Thinai and Kalam, the diagnosis was made and the treatment was given.

SELECTION OF MEDICINE AND SHEDULE

All the patients were treated with **Panchalavana vadagam**(1gm), twice a day with hot water,after food for 30 days. **Ref: Vaithiya thirattu**.(page no:112)[66]

The medicine was selected to stabilize the deranged uyir thathus and strengthening seven udal kattugal. The trial medicine is purified properly and prepared according to the literature. The drug is given for the entire course of treatment.

It is studied properly for Phytochemical analysis, Pharmacological analysis. The above parameters were done at pharmacology department of C.L.Baid metha college,, Chennai.

Whenever constipation was present Nilavagai choornam 5gm with hot water at bed time was given.

RESULTS AND OBSERVATIONS

RESULTS ANDOBSERVATION

The study on Erigunmam was carried out in 40 patients in the out patient department, Pothu Maruthuvam, Aringnar Anna Hospital of Indian medicine attached with Govt Siddha Medical college chennai during 2014-2016 analysed.

The observations were made and tabulated with following criteria:

- Sex distribution
- Age distribution
- Socio-economic status
- Duration of illness
- Food habits
- Habits
- Religion
- Paruvakkalam
- Thinai
- Mukkutram
  - Vathakutram
  - Pittha kutram
  - Kabha kutram
- Udal Thaathukal
- Envagai thervugal
- Naadi
- Blood grouping
- Clinical features
- Gradation of result

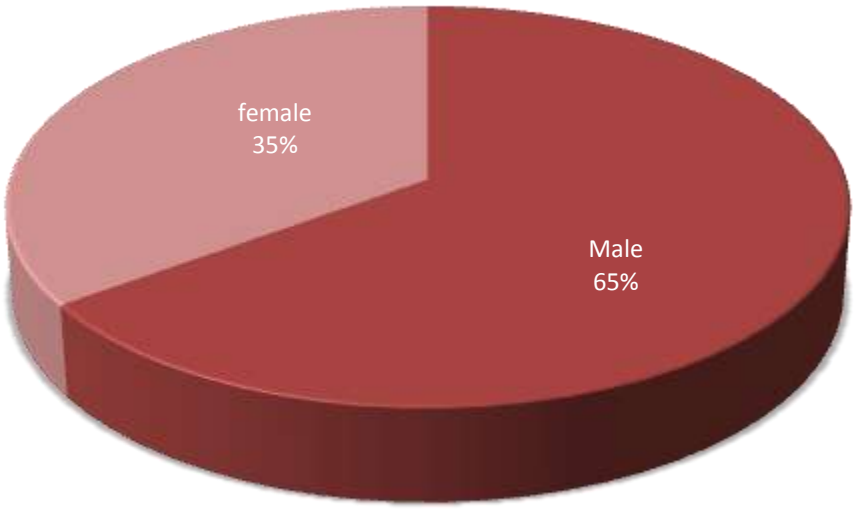
Pancha lavana vadagam 1gm two times / day with Hot water, after food.

Among the 40 cases epigastric pain, burning sensation with relation to food,nausea, vomiting, anorexia, bloating and fullness of the stomach, diarrhoea, weight loss and other symptoms were relieved after the administration of the medicines.

Digestion with good appetite and no chronic effects were observed.

1.GENDER DISTRIBUTION

S.No	GENDER	NUMBER OF CASES	PERCENTAGE (%)
1	Male	26	65%
2	Female	14	35%



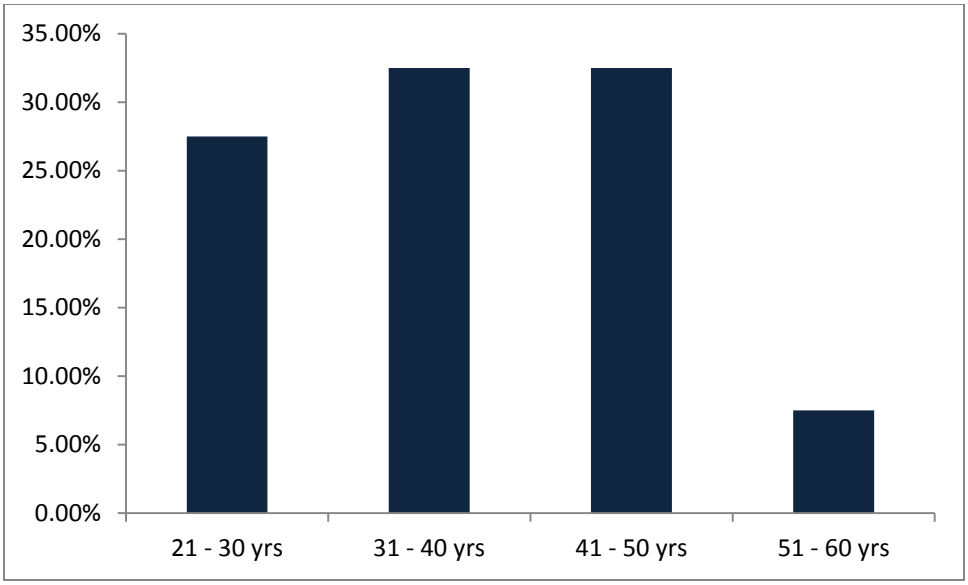
INFERENCE

About 65% were males and 35% were females

Literature: according to literature males are more prone to peptic ulcer

2.AGE DISTRIBUTION

S.No	AGE IN YEARS	NUMBER OF CASES	PERCENTAGE (%)
1	21 - 30 yrs	11	27.5%
2	31 - 40 yrs	13	32.50%
3	41 - 50 yrs	13	32.50%
4	51 - 60 yrs	3	7.50%

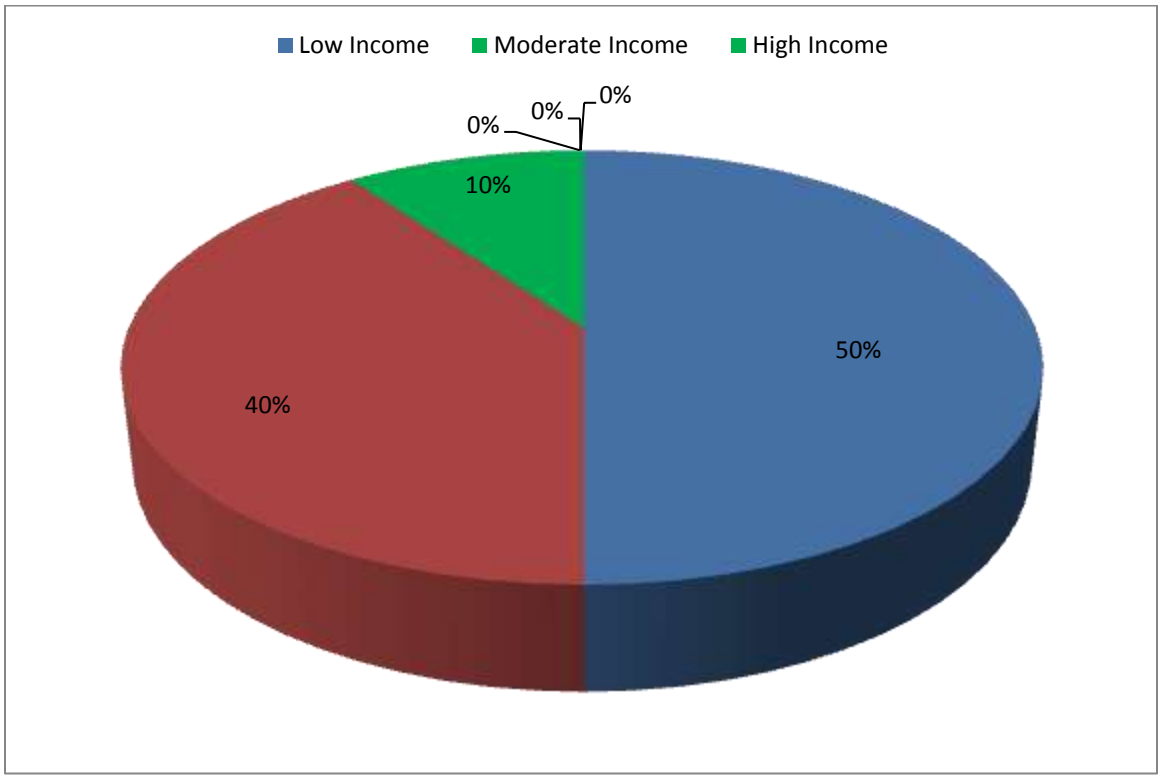


INFERENCE

Majority of the case that is 32.50% were in the 4th decade, 32.50% were in the 5th decade, 27.5% were in the 3rd decade, 7.5% were in the 6thdecade.

3.SOCIO – ECONOMIC STATUS

S.No	SOCIO – ECONOMIC STATUS	NUMBER OF CASES	PERCENTAGE (%)
1	Low Income (below 25,000 per month)	20	50%
2	Moderate Income (25,000 – 50,000 per month)	16	40%
3	High Income (Above 50,000 per month)	4	10%

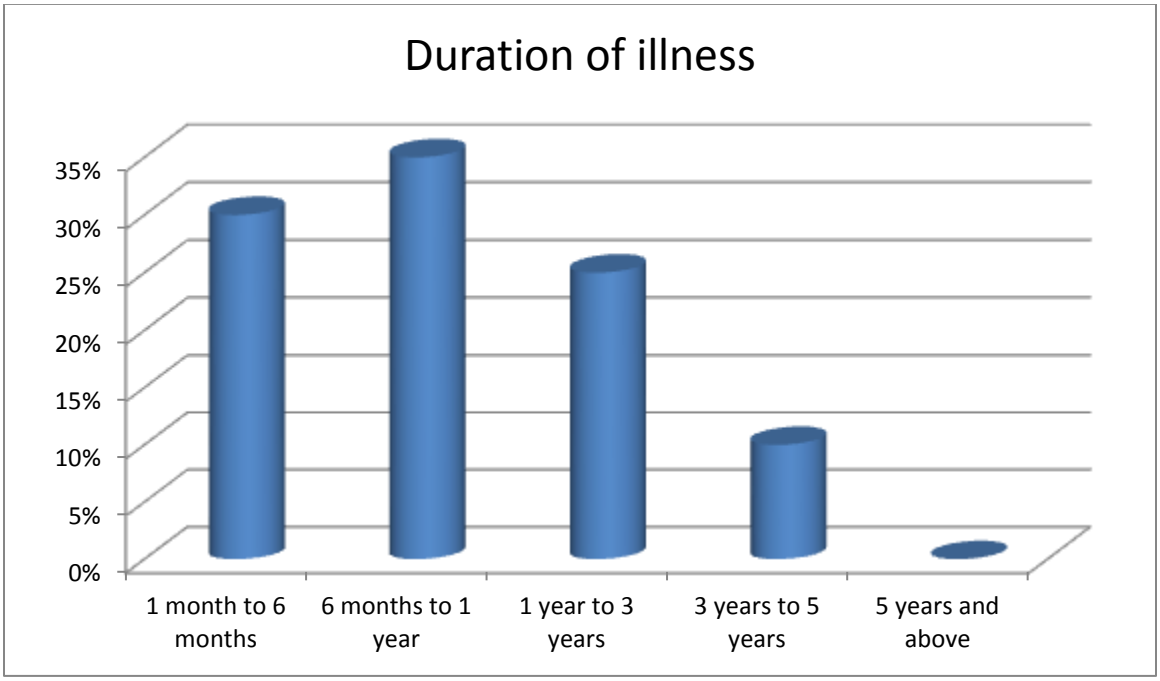


INFERENCE:

Among 40 cases 50% comes under low economic status, 40% of them under moderate status and 10% of them under high income status.

4.DURATION OF ILLNESS

S.NO	Duration	No . of cases	Percentage
1	1 Month to 6 months	12	30%
2	6 months to 1 year	14	35%
3	1 year to 3 years	10	25%
4	3 years to 5 years	4	10%
5	5 years and above	-	-

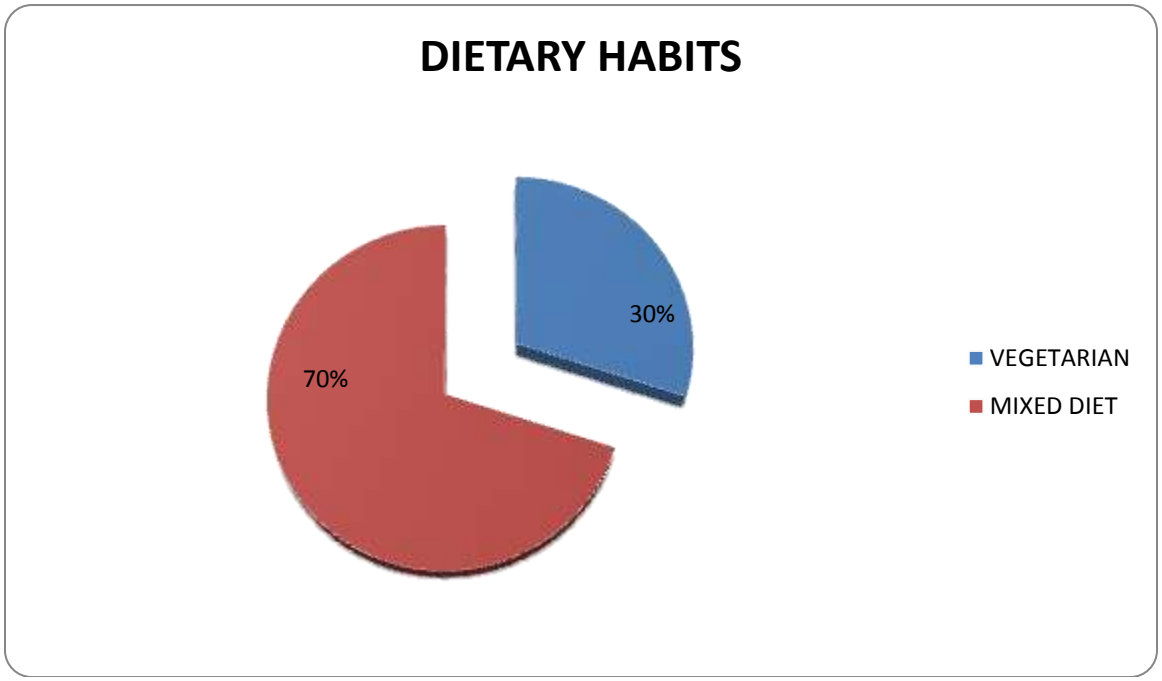


INFERENCE

Most of the cases selected duration of illness is 6 months to 1 year.

5.DIETARY HABITS

S.No	DIET	NUMBER OF CASES	PERCENTAGE (%)
1	Vegetarian	12	30%
2	Mixed diet	28	70%

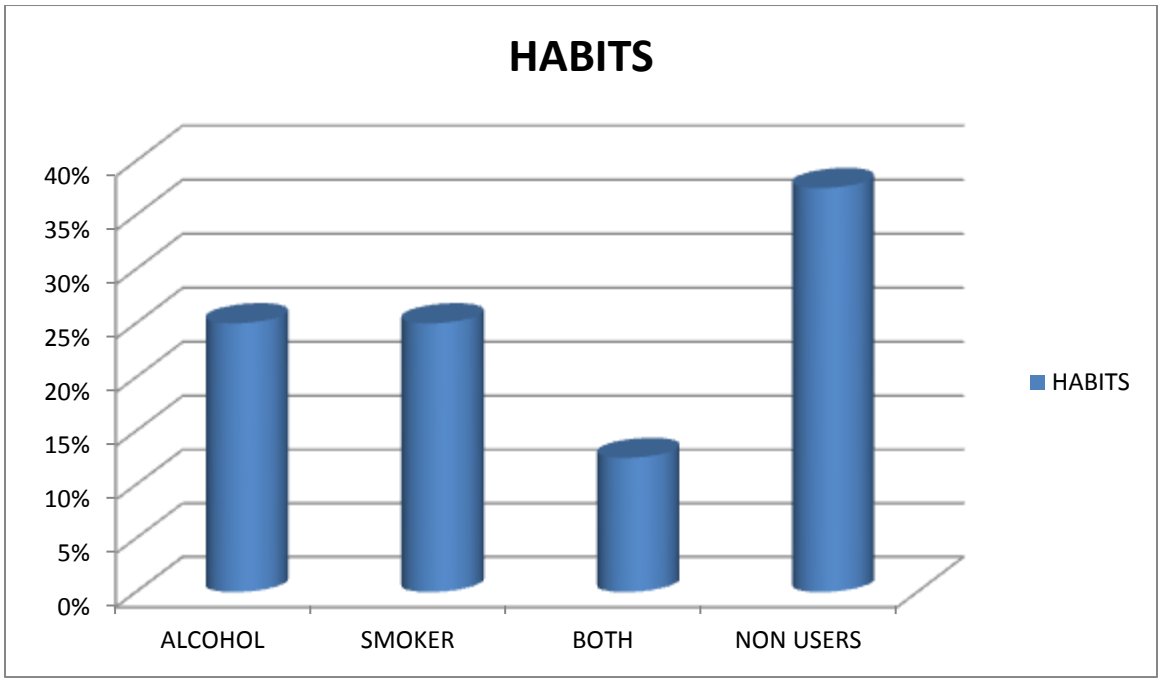


INFERENCE

Among 40 patients, 12 patients (30%) were taking vegetarian food and 28 patients (70%) were taking mixed diet.

6.HABITS

S.NO	HABITS	NO.OF PATIENTS	PERCENTAGE(%)
1	ALCOHOL	10	25%
2	SMOKERS	10	25%
3	BOTH(alcoholic and smokers)	5	12.5%
4	NON-USERS	15	37.5%

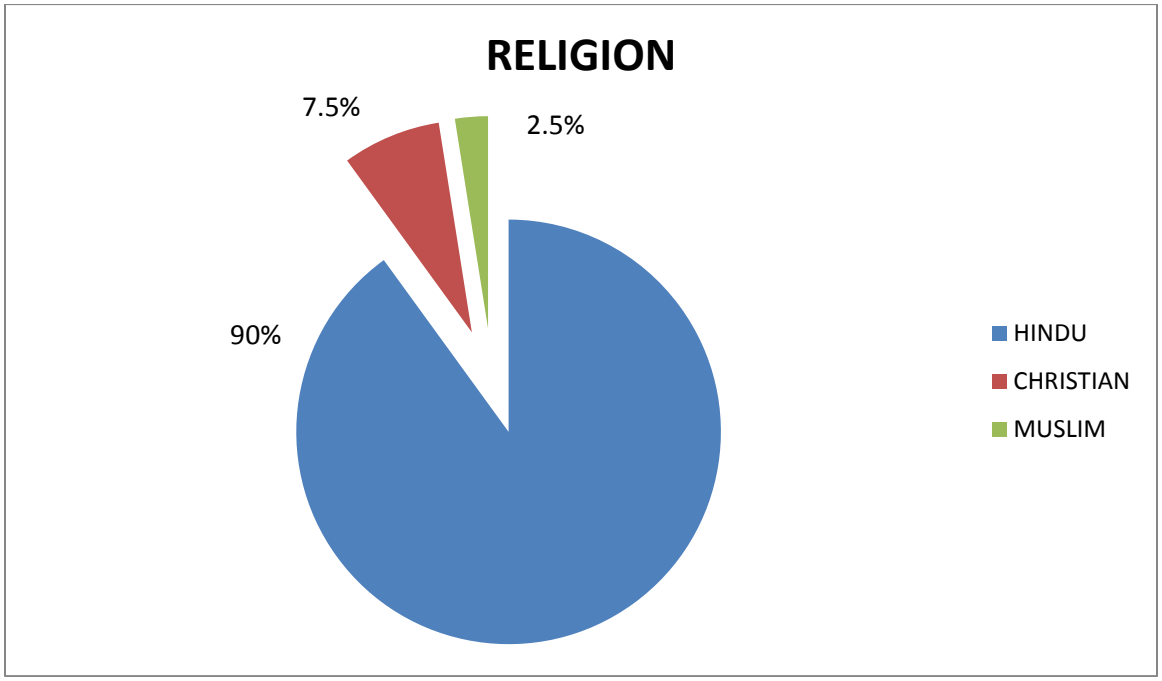


INFERENCE

Among 40 patients 10 patients were taking alcohol,10 patients were smokers and 5 patients are taken both (Alcohol and smoking),15 patients were non-users.

7.RELIGION

S.NO	RELIGION	NO.OF CASES	PERCENTAGE(%)
1	HINDU	36	90%
2	CHRISTIAN	3	7.5%
3	MUSLIM	1	2.5%

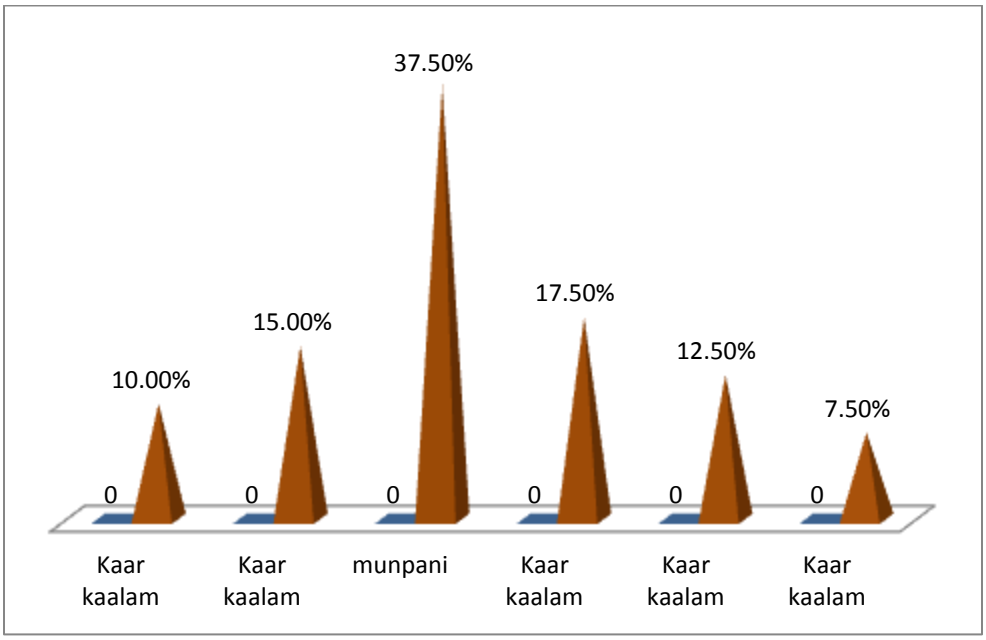


INFERENCE

Among 40 patients 90% were Hindu,7.5% Christians,2.5% Muslim

8.SEASONAL OCCURRENCE

S.No	KAALAM (Season)	NUMBER OF CASES	PERCENTAGE (%)
1	Kaar kaalam (Mid Aug – Mid Oct)	4	10%
2	koothir Kaalam (Mid Oct – Mid Dec)	6	15%
3	Munpani kaalam (Mid Dec – Mid Feb)	15	37.5%
4	Pinpani kaalam (Mid Feb – Mid Apr)	7	17.5%
5	Elavenir kaalam (Mid Apr – Mid Jun)	5	12.5%
6	Muthuvenir kaalam (Mid Jun – Mid Aug)	3	7.5%

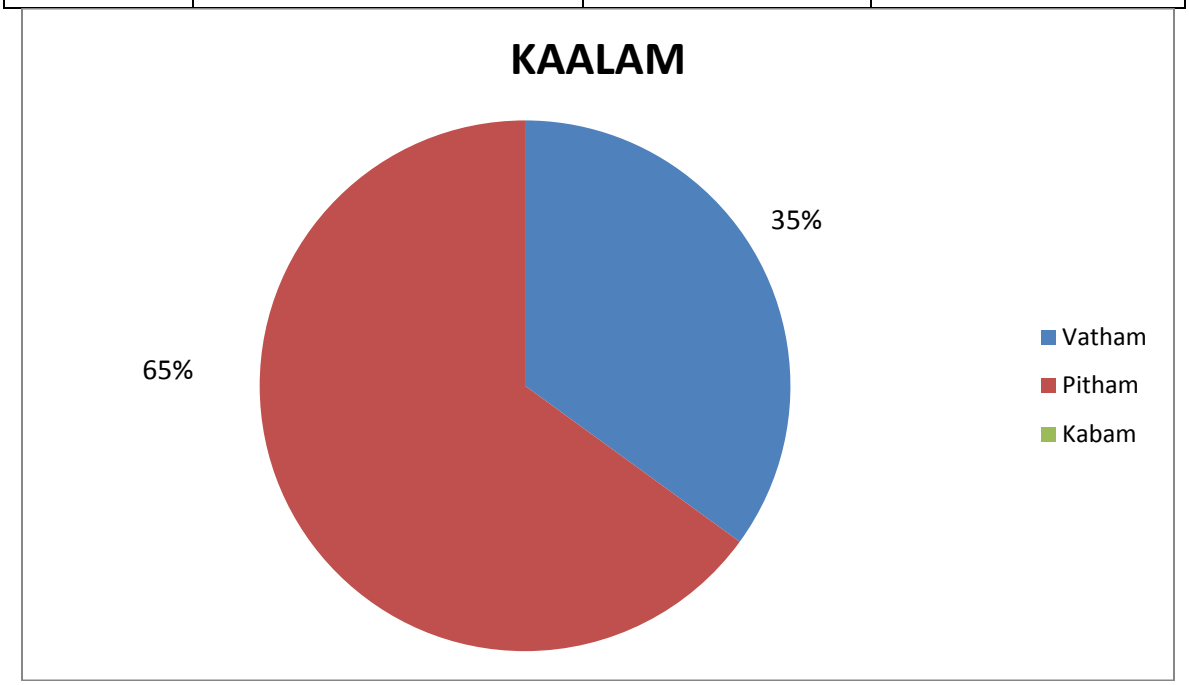


INFERENCE

According to paruvakaalam highest incident of 15 cases (37.5%) were noted in munpani kaalam , 7 cases (17.5%) were noted in pinpani kaalam, 6 cases (15%) were noted in koothir kaalam, 5 cases (12.5%) were noted in elavenir kaalam, 4 case (10%) were noted in karkaalam And 3 case(7.5%) were noted in muthuvenir kaalam.

9.KAALAM

S.NO	KAALAM	NO.OF CASES	PERCENTAGE%
1	Vatham	14	35%
2	Pitham	26	65%
3	Kabam	-	

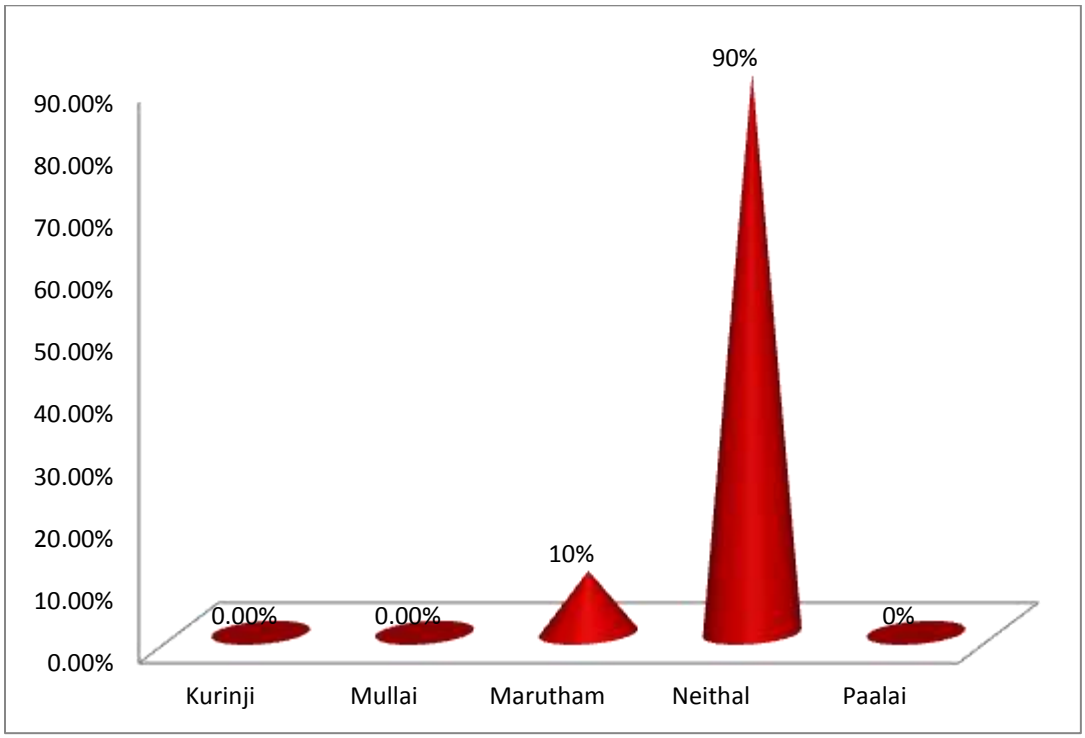


INFERENCE

Vatham kaalam lies upto 33rd age of a person,pitha kaalam lies upto 34th to 66th age,kaba kaalam lies above this age.The maximum number of patients of erigunmam cases were in pitha kaalam .

10.DISTRIBUTION OF THINAI

S.No	THINAI	NUMBER OF CASES	PERCENTAGE (%)
1	Kurinji	0	0%
2	Mullai	0	0%
3	Marutham	4	10%
4	Neithal	36	90%
5	Paalai	0	0%

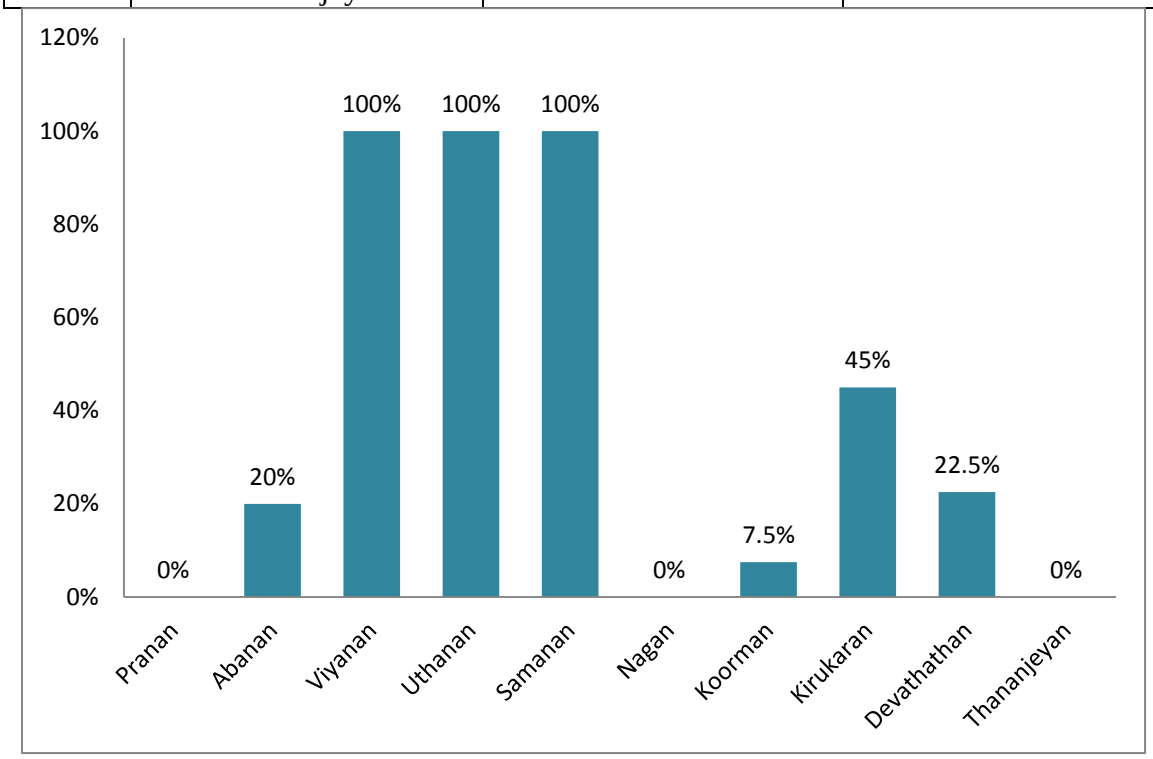


INFERENCE

According to thinai the highest distribution 90% was noted in neithal, 10% in marutham.

11.DISTRIBUTION OF MUKKUTRAM – VATHAM

S.No	VATHAM	NUMBER OF CASES	PERCENTAGE (%)
1	Pranan	0	0%
2	Abanan	8	20%
3	Viyanan	40	100%
4	Uthanan	40	100%
5	Samanan	40	100%
6	Nagan	0	0%
7	Koorman	3	7.5%
8	Kirukaran	18	45%
9	Devathathan	9	22.5%
10	Thananjeyan	0	0%

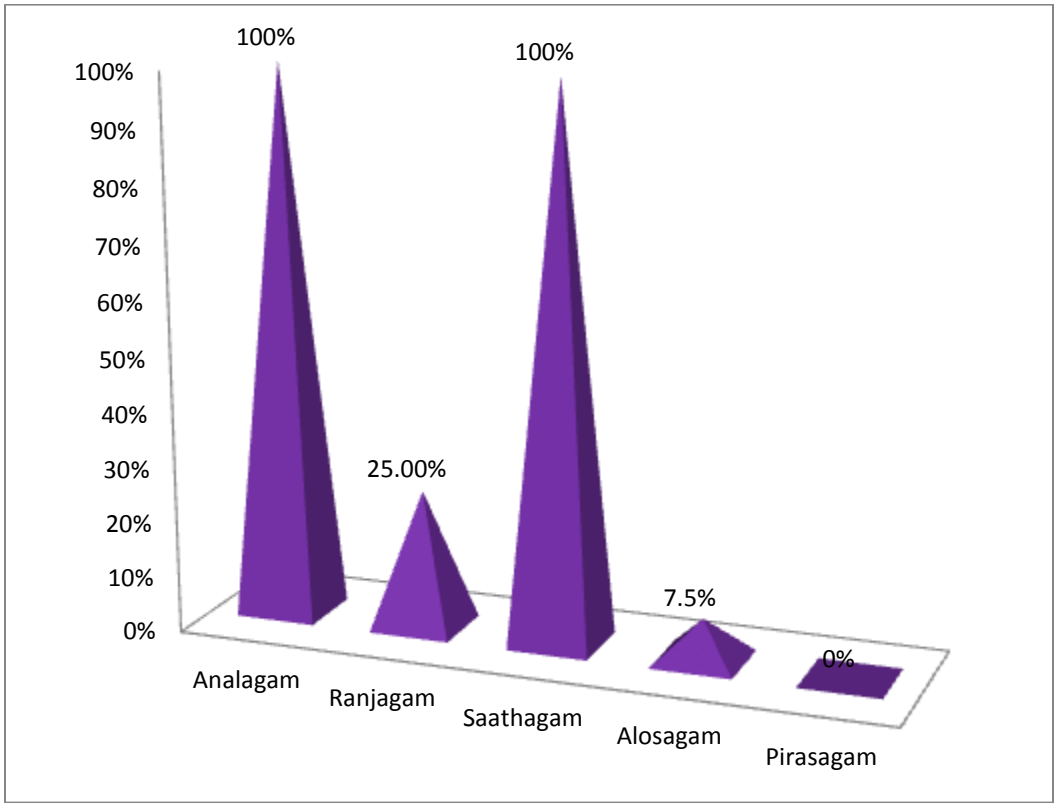


INFERENCE

Out of 40 patients Abanan was affected in 8 patients (20%), Viyanan was affected in 40 pateints (100%), Uthanan was affected in 40 patients (100%), Samanan was affected in 40 patients (100%),Koorman was affected in 3 patients, Kirukaran was affected in 18 patients (45%) and devathathan was affected in 9 patients (22.5%)

12.DISTRIBUTION OF MUKKUTRAM – PITHAM

S.No	PITHAM	NUMBER OF CASES	PERCENTAGE (%)
1	Analagam	40	100%
2	Ranjagam	10	25%
3	Saathagam	40	100%
4	Alosagam	3	7.5%
5	Pirasagam	0	0%

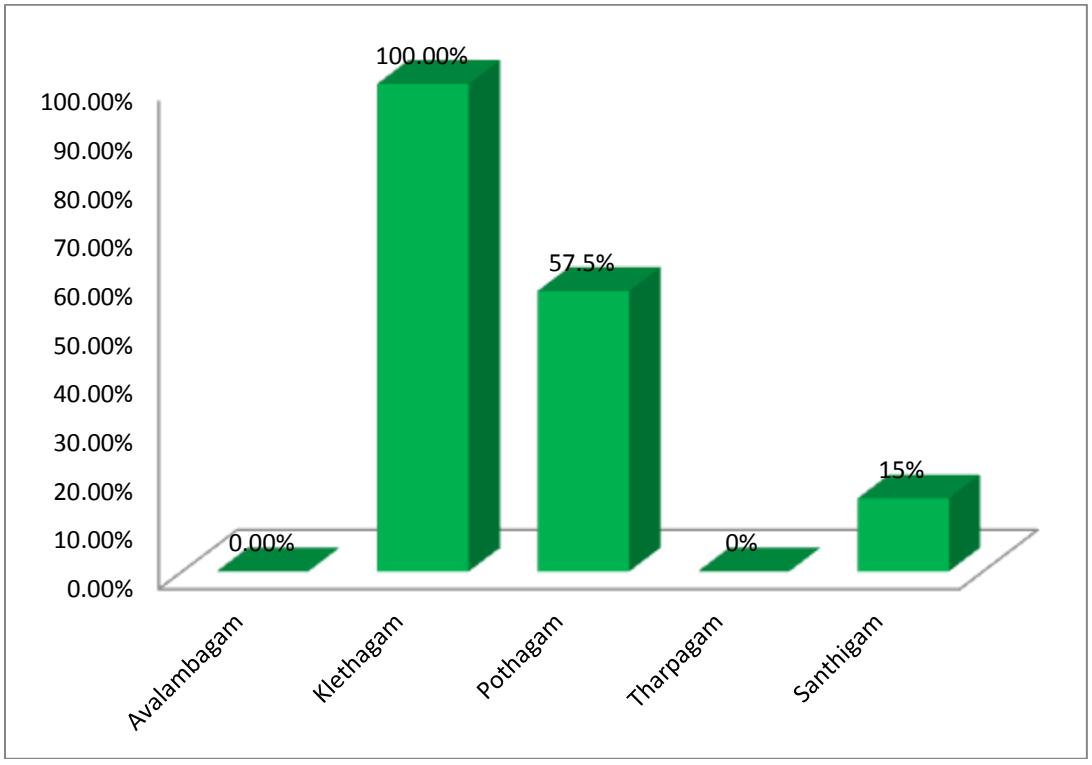


INFERENCE

Out of 40 patients Analagam was affected in 40 patients (100%), Ranjagam was affected in 10 patients (25%), Alosagam was affected in 3 patients, Sathagam was affected in 40 patients (100%).

13.DISTRIBUTION OF MUKKUTRAM – KABHAM

S.No	KABHAM	NUMBER OF CASES	PERCENTAGE (%)
1	Avalambagam	0	0%
2	Klethagam	40	100%
3	Pothagam	25	57.5%
4	Tharpagam	0	0%
5	Santhigam	6	15%

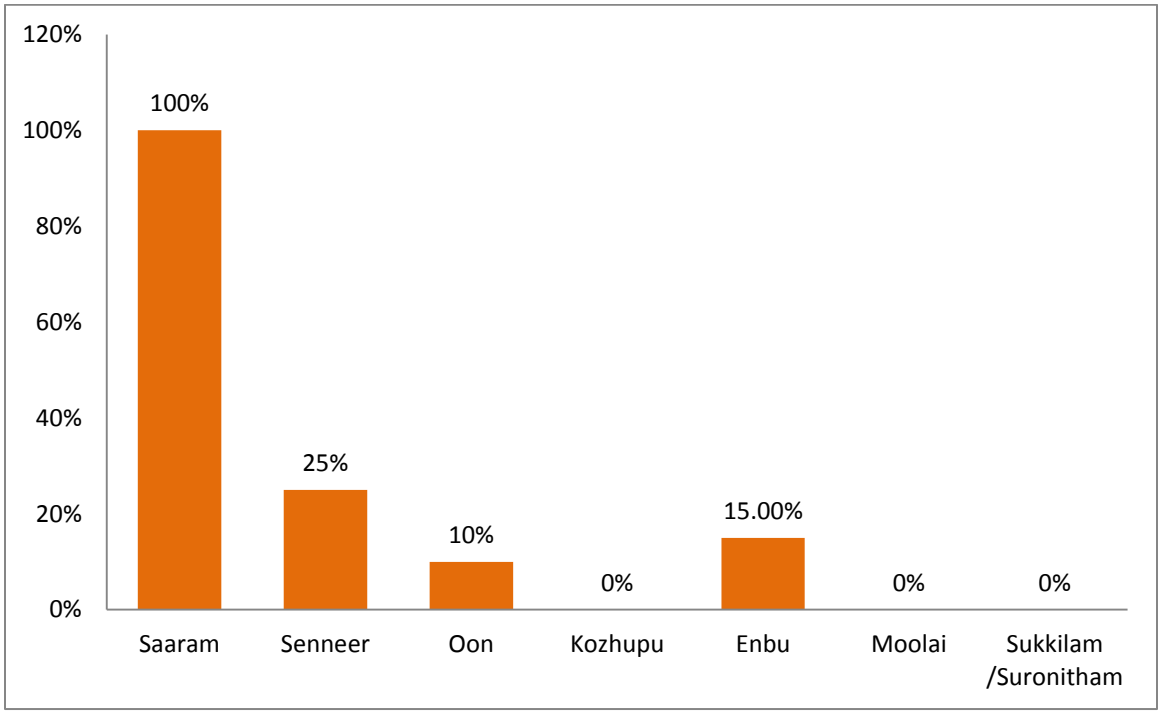


INFERENCE

Out of 40 patients, Kiledhagam was affected in 40 patients (100%), Pothagam was affected in 25patients(57.5%), Santhigam was affected in 6 patients (15%).

14.EZHU UDAL THATHUKAL

S.No	EZHU UDAL THATHUKAL	NUMBER OF CASES	PERCENTAGE (%)
1	Saaram	40	100%
2	Senneer	10	25%
3	Oon	4	10%
4	Kozhupu	0	0%
5	Enbu	6	15%
6	Moolai	0	0%
7	Sukkilam /Suronitham	0	0%

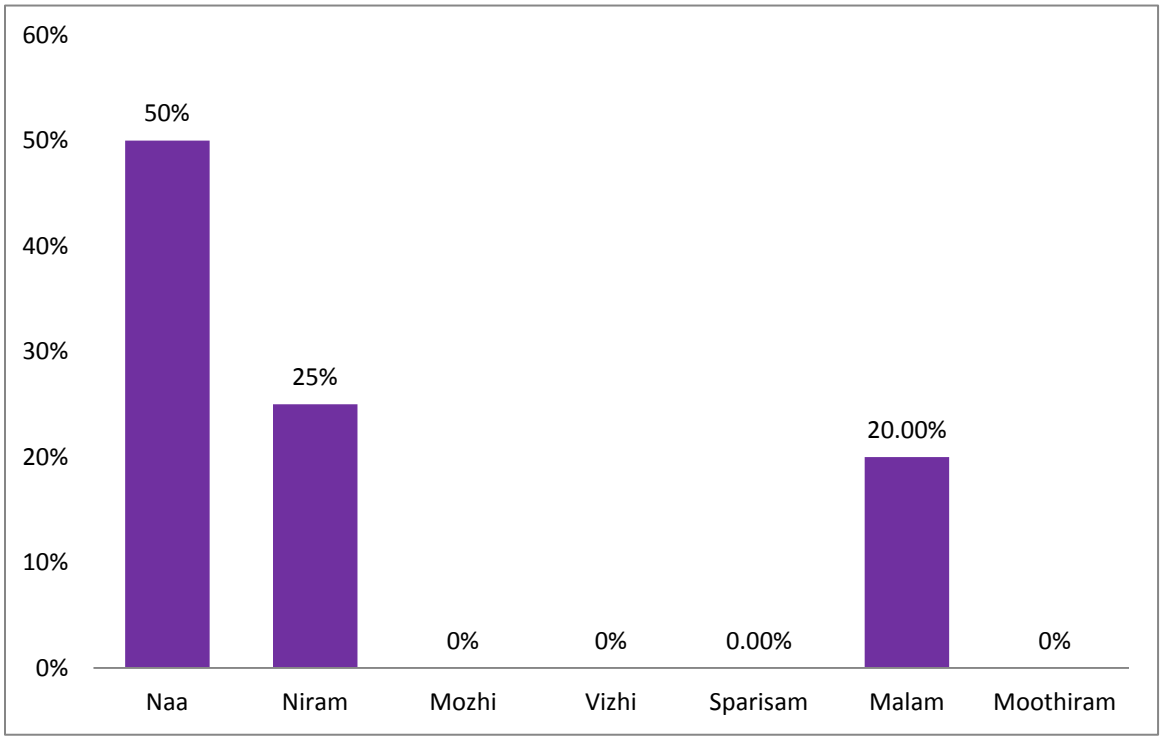


INFERENCE

Out of 40 patients, Saaram was affected in 40 patients (100%), Senneer was affected in 10 patients (25%), Oon was affected in 4 patients(10%), Enbu was affected in 6 patients (15%).

15.EN VAGAI THERVUGAL

S.No	EN VAGAI THERVUGAL	NUMBER OF CASES	PERCENTAGE (%)
1	Naa	20	50%
2	Niram	10	25%
3	Mozhi	0	0%
4	Vizhi	0	0%
5	Sparisam	0	0%
6	Malam	8	20%
7	Moothiram	0	0%
8	Naadi	40	100%

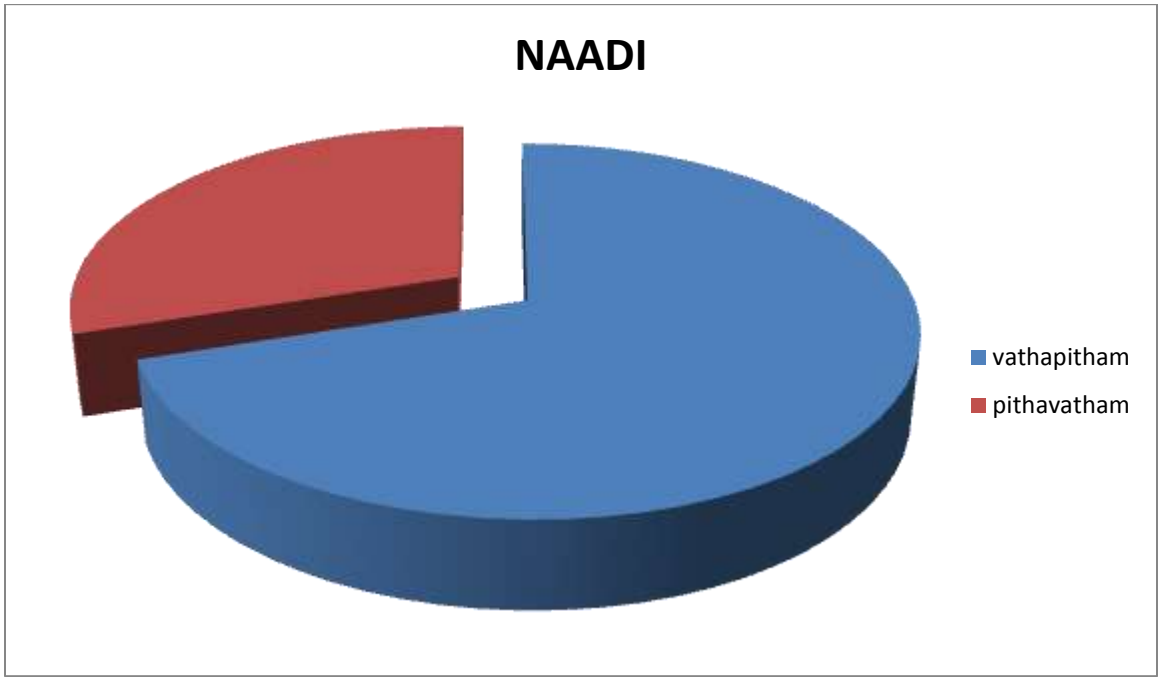


INFERENCE

In Envagai thervu,Naa was affected in 20 patients(50%), Niram was affected in 10patients (25%), Malam was affected in 8 patient (20%) and Naadi was affected in 40 patients (100%).

16.NAADI

S.No	NAADI	NUMBER OF CASES	PERCENTAGE (%)
1	Vatha pitham	28	70%
2	Pitha vatham	12	30%

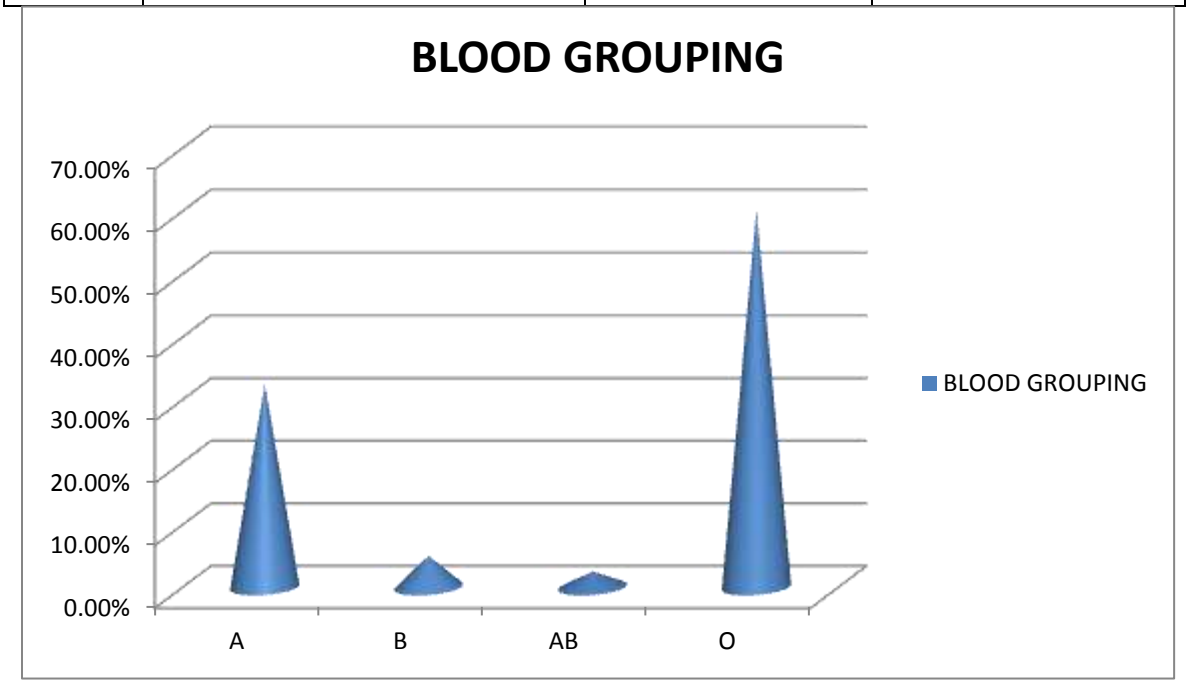


INFERENCE

28 patients (70%) had Vatha pitha naadi, 12 patients (30%) had Pitha vatham.

17.BLOOD GROUPING

S.NO	BLOOD GROUPING	NO.OF CASES	PERCENTAGE%
1	A	13	32.5%
2	B	2	5%
3	AB	1	2.5%
4	O	24	60%



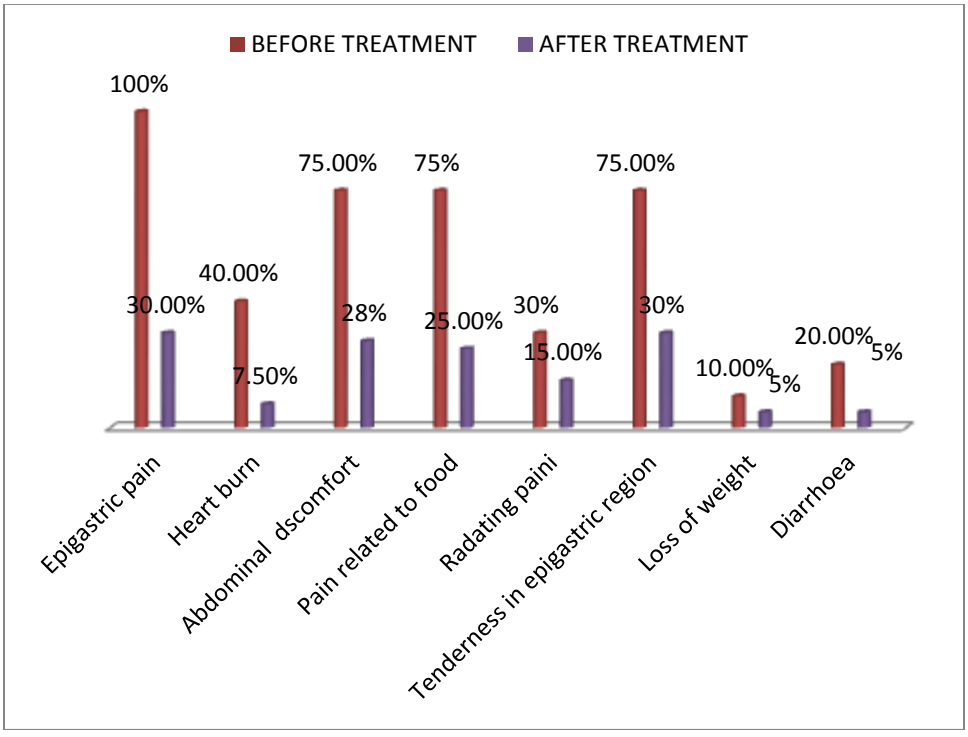
INFERENCE

From this study it is seen that maximum incidence of the disease erigunmam seen in the patients belonged to "O" group**.**

18.CLINICAL PROGNOSIS

S.No	SIGNS& SYMPTOMS	BEFORE TREATMENT		AFTER TREATMENT	
		NO.OF CASES	PERCENTAGE (%)	NO.OF CASES	PERCENTAGE (%)
1	Epigastric pain	40	100%	12	30%
2	Heart burn	16	40%	3	7.5%
3	Abdominal discomfort	30	75%	11	27.5%
4	Pain related to food	30	75%	10	25%
5	Radiating pain	12	30%	6	15%
6	Tenderness in epigastric region	30	75%	12	30%
7	Loss of weight	4	10%	2	5%
8	Diarrhoea	8	20%	2	5%

CLINICAL PROGNOSIS



INFERENCE:

Among 40 patients 28 patients improved from Epigastric pain

Among 16 patients13 patients improved from Heart burn

Among 30 patients 19 patients improved from Abdominal discomfort

Among 30 patients 20 patients improved from pain related to food

Among 12 patients 6 patients improved from radiating pain

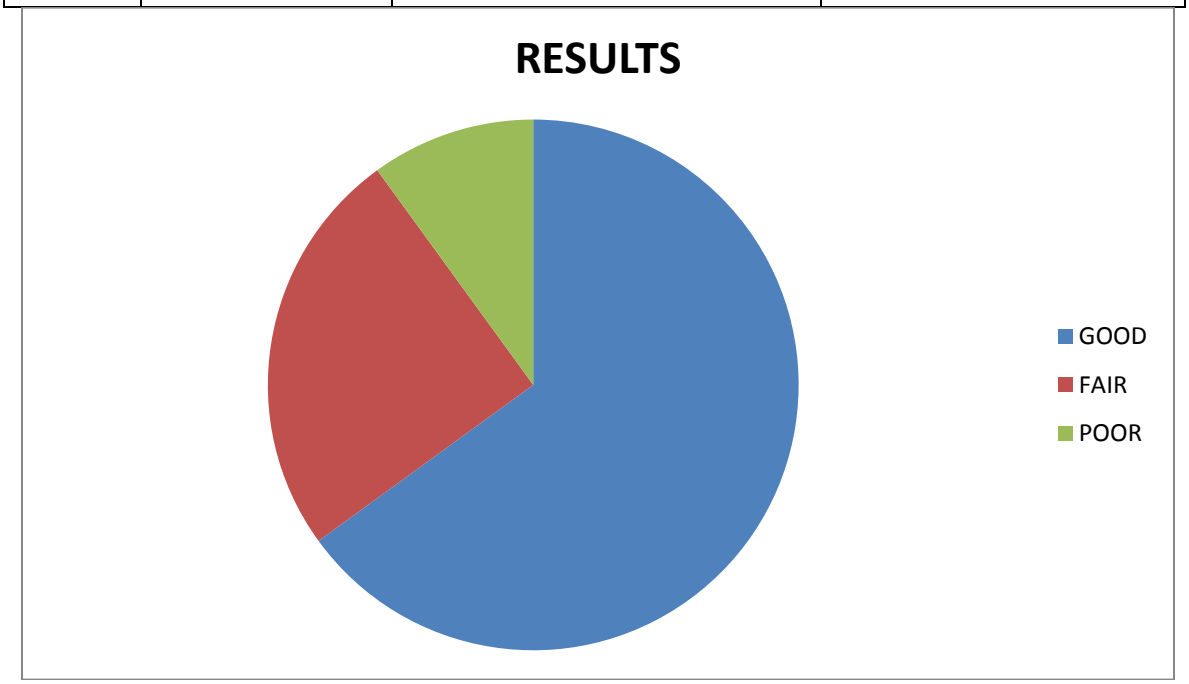
Among 30 patients 18 patients relief from tenderness in abdominal region.

Among 4 patients 2 patients improved from loss of weight

Among 8 patients 6 got relief from Diarrhoea

19.GRADING OF RESULTS

S.No	RESULTS	NUMBER OF CASES	PERCENTAGE (%)
1	Good	26	65%
2	Fair	10	25%
3	Poor	4	10%



INFERENCE

Results obtaineed were

- 65% of cases showed good results.
- 25% of cases showed fair results.
- 10% of cases showed poor results.

The Results were based on clinical improvement.

PROGNOSIS CHART

S.No	Name of the patient	Age/Sex	Date of Treatment Started	Duration of medicine taken	Investigation	
					Before treatment	After treatment
1	Govindaraj	33/M	25-08-15	4-Weeks	TC-10,500cell/cu.mm DC-P-60% L-35% E-5% ESR- 10mm-30min 20mm-60min Hb-14gm% WEIGHT-70kg ENDOSCOPY-DUODENAL ULCER	TC-10,000cell/cu.mm DC-P-59% L-38% E-3% ESR- 5mm-30min 10mm-60mm Hb-14% WEIGHT-72kg ENDOSCOPY-NORMAL STUDY
2	Muthupandi	41/M	02-09-15	4-Weeks	TC-10,000cell/cu.mm DC-P-59% L-38% E-3% ESR- 5mm-30min 10mm-60min Hb-12% WEIGHT-72kg ENDOSCOPY-DUODENAL ULCER	TC-9,000cell/cu.mm DC-P-47% L-50% E-3% ESR- 4mm-30min 8mm-60min Hb-13% WEIGHT-73kg. ENDOSCOPY-NORMAL STUDY
3	Selvam	43/M	05-09-15	4-Weeks	TC-10,500cell/cu.mm DC-P-59% L-37% E-4% ESR 8mm-30min 14mm-60min Hb-11% WEIGHT-72kg ENDOSCOPY-GASTRIC ULCER	TC-9,000cell/cu.mm DC-P-47% L-50% E-3% ESR-4mm-30min , 8 mm-60min Hb-13% WEIGHT-72kg. ENDOSCOPY-NORMAL STUDY
4	Perumal	40/M	04-10-15	4-Weeks	TC-10,000cell/cu.mm DC-P-46% L-50% E-4%	TC-9,800cell/cu.mm DC-P-46% L-51% E-3%

					ESR- 4mm-30min 8mm-60min Hb-11% WEIGHT-70kg ENDOSCOPY-GASTRIC ULCER	ESR-4mm-30min 8mm-60min Hb-12% WEIGHT-72kg ENDOSCOPY-NORMAL STUDY
5	Parvathi	39/F	22-10-15	4-Weeks	TC-9,000cell/cu.mm DC-P-54% L-42% E-4% ESR-8mm-30min 18mm-60mm HB-10% WEIGHT-68kg ENDOSCOPY-DUODENAL ULCER	TC-9,200cell/cu.mm DC-P-50% L-45% E-5% ESR-5mm-30min 10mm-60min HB-12% WEIGHT-70kg ENDOSCOPY-NORMAL STUDY
6	Kasthoori	56/F	07-11-15	4-Weeks	TC-9,300cell/cu.mm DC-P-60% L-37% E-3% ESR-10mm-30min 20mm-60min Hb-10% WEIGHT-68kg ENDOSCOPY-DUODENAL ULCER	TC-9,200cell/cu.mm DC-P-50% L-45% E-5% ESR-6mm-30min 12mm-60min Hb-12% WEIGHT-69kg ENDOSCOPY-1st PART DUODENUM INFLAMMED
7	Rajeswari	42/F	09-11-15	4-Weeks	TC-9,700cell/cu.mm DC-P-60% L-36% E-4% ESR-12mm-30min 24mm-60min Hb-10% WEIGHT-58kg ENDOSCOPY-GASTRIC ULCER	TC-9,000cell/cu.mm DC-P-40% L-56% E-4% ESR-8mm-30min 16mm-60min Hb-11% WEIGHT-60kg ENDOSCOPY-NORMAL STUDY
8	Paul	32/M	22-11-15	4-Weeks	TC-9,300cell/cu.mm DC-P-60%	TC-9,200cell/cu.mm DC-P-60% L-

					L-37% E-3% ESR-12mm-30min 20mm-60min Hb-13% WEIGHT-78kg ENDOSCOPY-DUODENAL ULCER	38% E-2% ESR-8mm-30min 16mm-60min Hb-12% WEIGHT-79kg ENDOSCOPY-NORMAL STUDY
9	Ramu	45/M	03-12-15	4-Weeks	TC-9,600cell/cu.mm DC-P-60% L-36% E-4% ESR-8mm-30min 16mm-60min Hb-13% WEIGHT-68kg ENDOSCOPY-GASTRITIS	TC-9,400cell/cu.mm DC-P-50% L-45% E-5% ESR-4mm-30min 8mm-60min Hb-13% WEIGHT-73kg ENDOSCOPY-NORMAL STUDY
10	Gowthamraj	25/M	12-12-15	4-Weeks	TC-10,200cell/cu.mm DC-P-60% L-36% E-4% ESR-6mm-30min 10mm-60min Hb-11% WEIGHT-72kg ENDOSCOPY-DUODENAL ULCER	TC-9,9000cell/cu.mm DC-P-58% L-37% E-5% ESR- 4mm-30min 8mm-60min Hb-12gm% WEIGHT-74kg. ENDOSCOPY-NORMAL STUDY
11	Sekar	38/M	17-12-15	4- Weeks	TC-10,500cell/cu.mm DC-P-60% L-35% E-5% ESR-10mm-30min 20mm-60min Hb-12gm% WEIGHT-58kg ENDOSCOPY-DUODENAL ULCER	TC-9,600cell/cu.mm DC-P-50% L-45% E-5% ESR- 4mm-30min 8mm-60min Hb-14gm% WEIGHT-62kg ENDOSCOPY-NORMAL STUDY
12	Vasanth	42/M	20-12-15	4- Weeks	TC-10,000cell/cu.m	TC-9,800cell/cu.mm

					m DC-P-60% L-36% E-4% ESR-12mm-30min 20mm-60min Hb-13gm% WEIGHT-58kg ENDOSCOPY-GASTRIC ULCER	DC-P-50% L-45% E-5% ESR-8mm-30min 16mm-60min Hb-14gm% WEIGHT-60kg ENDOSCOPY-NORMAL STUDY
13	Murali	38/M	30-12-15	4- Weeks	TC-9,600cell/cu.mm DC-P-60% L-38% E-2% ESR-10mm-30min 20mm-60min Hb-14gm% WEIGHT-60kg ENDOSCOPY-GASTRIC ULCER	TC-8,600cell/cu.mm DC-P-58% L-40% E-2% ESR- 6mm-30min 12mm-60min Hb-14gm% WEIGHT-60kg ENDOSCOPY-NORMAL STUDY
14	Babu	40/M	04-01-16	4- Weeks	TC-9,000cell/cu.mm DC-P-54% L-42% E-4% ESR-10mm-30min 20mm-60min Hb-13gm% WEIGHT-66kg ENDOSCOPY-DUODENAL ULCER	TC-9,800cell/cu.mm DC-P-50% L-45% E-5% ESR- 4mm-30min 8mm-60min Hb-14gm% WEIGHT-67kg ENDOSCOPY-NORMAL STUDY
15	Sathyamoorthy	27/M	09-01-16	4- Weeks	TC-9,300cell/cu.mm DC-P-60% L-36% E-4% ESR-15mm-30min 25mm-60min Hb-13gm% WEIGHT-60kg ENDOSCOPY-GASTRIC ULCER	TC-8,500cell/cu.mm DC-P-40% L-55% E-5% ESR-10mm-30min 20mm-60min Hb-14gm% WEIGHT-62kg ENDOSCOPY-NORMAL STUDY

16	Usha	45/F	10-01-16	4- Weeks	TC-10,600cell/cu.mm DC-P-64% L-31% E-5% ESR-6mm-30min 12mm-60min Hb-9gm% WEIGHT-60kg ENDOSCOPY-DUODENAL ULCER	TC-9,800cell/cu.mm DC-P-50% L-45% E-5% ESR- 4mm-30min 8mm-60min Hb-11gm% WEIGHT-63kg ENDOSCOPY-NORMAL STUDY
17	Selvi	50/F	13-01-16	4- Weeks	TC-10,400cell/cu.mm DC-P-60% L-33% E-7% ESR-8mm-30min 18mm-60min Hb-12gm% WEIGHT-60kg ENDOSCOPY-DUODENAL ULCER	TC-9,800cell/cu.mm DC-P-50% L-45% E-5% ESR-5mm-30min 12mm-60min Hb-13gm% WEIGHT-61kg ENDOSCOPY-NORMAL STUDY
18	Sakthivel	29/M	23-01-16	4- Weeks	TC-10,500cell/cu.mm DC-P-65% L-30% E-5% ESR-10mm-30min 20mm-60min Hb-13gm% WEIGHT-67kg ENDOSCOPY-DUODENAL ULCER	TC-9,800cell/cu.mm DC-P-65% L-34% E-1% ESR-5mm-30min 10mm-60min Hb-14gm% WEIGHT-69kg ENDOSCOPY-NORMAL STUDY
19	Mary	47/F	25-01-16	4- Weeks	TC-9000cell/cu.mm DC-P-60% L-35% E-5% ESR- 8mm-30min 16mm-60min Hb-13gm% WEIGHT-63kg ENDOSCOPY-	TC-9200cell/cu.mm DC-P-60% L-38% E-2% ESR- 6mm-30min 12mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY –

					GASTRIC ULCER	NORMAL STUDY
20	Rafiq	41/M	28-01-16	4- Weeks	TC-10,500cell/cu.mm DC-P-59% L-39% E-2% ESR-4mm-30min 8mm-60min Hb-12gm% WEIGHT-71kg ENDOSCOPY-DUODENAL ULCER	TC-9,800cell/cu.mm DC-P-60% L-37% E-3% ESR- 4mm-30min 8mm-60min Hb-12gm% WEIGHT-69kg ENDOSCOPY-NORMAL STUDY
21	Thilagam	52/F	30-01-16	4- Weeks	TC-9700cell/cu.mm DC-P-60% L-35% E-5% ESR- 6mm-30min 14mm-60min Hb-10gm% WEIGHT-69kg ENDOSCOPY-GASTRIC ULCER	TC-10,000cell/cu.mm DC-P-58% L-38% E-4% ESR- 5mm-30min 10mm-60min Hb-10gm% WEIGHT-70kg ENDOSCOPY-1st PART DUODENUM INFLAMMED
22	Tamilarasan	31/M	30-01-16	4- Weeks	TC-10,200cell/cu.mm DC-P-62% L-30% E-8% ESR-5mm-30min 10mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-GASTRIC ULCER	TC-10,000cell/cu.mm DC-P-65% L-30% E-5% ESR-4mm-30min 8mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-NORMAL STUDY
23	Revathy	27/F	02-02-16	4- Weeks	TC-9200cell/cu.mm DC-P-62% L-35% E-3% ESR- 5mm-30min 10mm-60min Hb-	TC-9700cell/cu.mm DC-P-64% L-33% E-3% ESR- 5mm-30min 10mm-60min Hb-

					10gm% WEIGHT-50kg ENDOSCOPY-GASTRIC ULCER	11gm% WEIGHT-51kg ENDOSCOPY-NORMAL STUDY
24	Kalaiselvi	34/F	02-02-16	4- Weeks	TC-9700cell/cu.mm DC-P-60% L-35% E-5% ESR- 10mm-30min 20mm-60min Hb-9gm% WEIGHT-58kg ENDOSCOPY-DUODENAL ULCER	TC-9900cell/cu.mm DC-P-62% L-35% E-3% ESR- 5mm-30min 10mm-60min Hb-11gm% WEIGHT-59kg ENDOSCOPY-NORMAL STUDY
25	Senthilvel	30/M	13-02-16	4- Weeks	TC-9700cell/cu.mm DC-P-62% L-35% E-3% ESR- 8mm-30min 18mm-60min Hb-14gm% WEIGHT-70kg ENDOSCOPY-DUODENAL ULCER	TC-9900cell/cu.mm DC-P-60% L-38% E-2% ESR- 5mm-30min 10mm-60min Hb-14gm% WEIGHT-72kg ENDOSCOPY-1st PART DUODENUM INFLAMMED
26	Murali	30/M	01-03-16	4- Weeks	TC-9000cell/cu.mm DC-P-66% L-30% E-4% ESR- 8mm-30min 14mm-60min Hb-14gm% WEIGHT-68kg ENDOSCOPY-DUODENAL ULCER	TC-9400cell/cu.mm DC-P-62% L-35% E-3% ESR- 5mm-30min 10mm-60min Hb-14gm% WEIGHT-70kg ENDOSCOPY-NORMAL STUDY
27	Latha	41/M	03-03-16	4- Weeks	TC-10,500cell/cu.mm DC-P-59% L-37% E-4%	TC-9,000cell/cu.mm DC-P-47% L-50% E-3%

					ESR - 10mm-30min 20mm-60min Hb-11% WEIGHT-62kg ENDOSCOPY-GASTRIC ULCER	ESR-4mm-30min 8 mm-60min Hb-12% WEIGHT-63kg ENDOSCOPY-NORMAL STUDY
28	Vasantha	30/F	03-03-16	4- Weeks	TC-9500cell/cu.mm DC-P-58% L-36% E-6% ESR- 5mm-30min 10mm-60min Hb-8.2gm% WEIGHT-54kg ENDOSCOPY-DUODENAL ULCER	TC-9900cell/cu.mm DC-P-60% L-35% E-5% ESR- 5mm-30min 10mm-60min Hb-10gm% WEIGHT-56kg ENDOSCOPY-NORMAL STUDY
29	Sureshbabu	43/M	11-03-16	4- Weeks	TC-9900cell/cu.mm DC-P-64% L-32% E-4% ESR- 8mm-30min 18mm-60min Hb-12gm% WEIGHT-67kg ENDOSCOPY-GASTRIC ULCER	TC-10,200cell/cu.m m DC-P-62% L-35% E-3% ESR- 6mm-30min 12mm-60min Hb-13gm% WEIGHT-67kg ENDOSCOPY-NORMAL STUDY
30	Sriram	32/M	22-03-16	4- Weeks	TC-9800cell/cu.mm DC-P-57% L-35% E-8% ESR- 10mm-30min 18mm-60min Hb-11.5gm% WEIGHT-70kg ENDOSCOPY-GASTRIC ULCER	TC-10000cell/cu.mm DC-P-60% L-35% E-5% ESR- 5mm-30min 10mm-60min Hb-13gm% WEIGHT-70kg ENDOSCOPY-NORMAL STUDY
31	Varalakshmi	39/F	25-03-16	4- Weeks	TC-9600cell/cu.mm	TC-9900cell/cu.mm

					DC-P-54% L-38% E-8% ESR- 8mm-30min 16mm-60min Hb-10gm% WEIGHT-54kg ENDOSCOPY-DUODENAL ULCER	DC-P-58% L-36% E-6% ESR- 4mm-30min 10mm-60min Hb-11gm% WEIGHT-57kg ENDOSCOPY-NORMAL STUDY
32	Divyaprasath	37/M	31-03-16	4- Weeks	TC-9300cell/cu.mm DC-P-60% L-37% E-3% ESR- 6mm-30min 10mm-60min Hb-12gm% WEIGHT-62kg ENDOSCOPY-DUODENAL ULCER	TC-9600cell/cu.mm DC-P-62% L-35% E-3% ESR- 4mm-30min 8mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-NORMAL STUDY
33	Aasha	32/F	16-04-16	4- Weeks	TC-9400cell/cu.mm DC-P-64% L-33% E-3% ESR- 5mm-30min 10mm-60min Hb-10gm% WEIGHT-51kg ENDOSCOPY-DUODENAL ULCER	TC-9900cell/cu.mm DC-P-62% L-34% E-4% ESR- 4mm-30min 8mm-60min Hb-11gm% WEIGHT-52kg ENDOSCOPY-NORMAL STUDY
34	Aathilakshmi	51/F	19-04-16	4- Weeks	TC-9900cell/cu.mm DC-P-64% L-32% E-4% ESR- 8mm-30min 18mm-60min Hb-12gm% WEIGHT-67kg ENDOSCOPY-GASTRIC ULCER	TC-10,200cell/cu.mm DC-P-62% L-35% E-3% ESR- 6mm-30min 12mm-60min Hb-12gm% WEIGHT-67kg ENDOSCOPY-NORMAL STUDY

35	Marimuthu	54/M	28-04-16	4- Weeks	TC-9700cell/cu.mm DC-P-60% L-35% E-5% ESR- 10mm-30min 20mm-60min Hb-13gm% WEIGHT-69kg ENDOSCOPY-DUODENAL ULCER	TC-9900cell/cu.mm DC-P-62% L-35% E-3% ESR- 5mm-30min 10mm-60min Hb-13gm% WEIGHT-70kg ENDOSCOPY-NORMAL STUDY
36	Varathan	53/M	30-04-16	4- Weeks	TC-10,200cell/cu.mm DC-P-64% L-30% E-6% ESR-5mm-30min 10mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-DUODENAL ULCER	TC-10,000cell/cu.mm DC-P-66% L-32% E-2% ESR-4mm-30min 8mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-NORMAL STUDY
37	Indrakumar	46/M	02-05-16	4- Weeks	TC-9000cell/cu.mm DC-P-59% L-37% E-4% ESR- 8mm-30min 16mm-60min Hb-12gm% WEIGHT-70kg ENDOSCOPY-DUODENAL ULCER	TC-9300cell/cu.mm DC-P-62% L-35% E-3% ESR- 5mm-30min 10mm-60min Hb-13gm% WEIGHT-70kg ENDOSCOPY-NORMAL STUDY
38	Nagammal	59/F	16-05-16	4- Weeks	TC-8900cell/cu.mm DC-P-60% L-37% E-3% ESR- 5mm-30min 10mm-60min Hb-10gm% WEIGHT-62kg ENDOSCOPY-	TC-9300cell/cu.mm DC-P-62% L-35% E-3% ESR- 4mm-30min 8mm-60min Hb-12gm% WEIGHT-63kg ENDOSCOPY-

					GASTRITIS	NORMAL STUDY
39	Anthony	38/M	16-05-16	4- Weeks	TC-9700cell/cu.mm DC-P-60% L-35% E-5% ESR- 10mm-30min 20mm-60min Hb-14gm% WEIGHT-69kg ENDOSCOPY-GASTRIC ULCER	TC-10,000cell/cu.mm DC-P-58% L-38% E-4% ESR- 5mm-30min 10mm-60min Hb-14gm% WEIGHT-69kg ENDOSCOPY-NORMAL STUDY
40	Chandrasekar	32/M	16-05-16	4- Weeks	TC-10,200cell/cu.mm DC-P-64% L-30% E-6% ESR- 5mm-30min 10mm-60min Hb-13gm% WEIGHT-64kg ENDOSCOPY-DUODENAL ULCER	TC-9,200cell/cu.mm DC-P-52% L-45% E-3% ESR- 4mm-30min 8mm-60min Hb-13gm% WEIGHT-66kg ENDOSCOPY-NORMAL STUDY

S.No	Name of the patient	Age/Sex	Duration of medicine taken	Investigation		Results
				Before treatment	After treatment	
1	Govindaraj	33/M	4-Weeks	tenderness in epigastric region,radiating pain,abdominal discomfort.	Cured and improved	GOOD
2	Muthupandi	41/M	4- Weeks	tenderness in epigastric region,radiating pain,abdominal discomfort.	symptoms relieved	FAIR
3	Selvam	43/M	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	Cured and improved	GOOD
4	Perumal	40/M	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort.	Cured and improved	GOOD
5	Parvathi	39/F	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	symptoms relieved	FAIR
6	Kasthoori	56/F	4- Weeks	tenderness in epigastric region,radiating pain,pain related to food,diarrhoea.	Symptoms not relieved	POOR
7	Rajeswari	42/F	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	Cured and improved	GOOD
8	Paul	32/M	4- Weeks	Tendersness in epigastric region abdominal discomfort,pain related to food,loss of weight.	Cured and improved	GOOD
9	Ramu	45/M	4- Weeks	Tendersness in epigastric region, abdominal discomfort,	symptoms relieved	GOOD
10	Gowthamraj	25/M	4- Weeks	epigastric pain, abdominal discomfort,pain related to food.	Cured and improved	GOOD
11	Sekar	38/M	4- Weeks	tenderness in epigastric region,Epigastric pain,abdominal discomfort,pain related to food.	Cured and improved	GOOD
12	Vasanth	42/M	4- Weeks	Epigastric pain, heart burn,abdominal	Symptoms not	POOR

				discomfort, pain related to food, diarrhoea, loss of weight.	relieved	
13	Murali	38/M	4- Weeks	Tendersness in epigastric region abdominal discomfort,pain related to food, diarrhoea.	Cured and improved	GOOD
14	Babu	40/M	4- Weeks	Tendersness in epigastric region abdominal discomfort,painrelated to food.	symptoms relieved	FAIR
15	Sathyamoorthy	27/M	4- Weeks	Tenderness in epigastric region, heart burn,abdominal discomfort, pain related to food,loss of weight.	Cured and improved	GOOD
16	Usha	45/F	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food.	symptoms relieved	FAIR
17	Selvi	50/F	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, diarrhoea.	Cured and improved	GOOD
18	Sakthivel	29/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, loss of weight.	symptoms relieved	FAIR
19	Mary	47/F	4- Weeks	Tenderness in epigastric region, heart burn,abdominal discomfort,	Cured and improved	GOOD
20	Rafiq	41/M	4- Weeks	Tenderness in epigastric region,abdominal discomfort, pain related to food, diarrhoea, loss of weight.	Cured and improved	GOOD
21	Thilagam	52/F	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	Symptoms not relieved	POOR
22	Tamilarasan	31/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food,loss of weight.	symptoms relieved	FAIR
23	Revathy	27/F	4- Weeks	Epigastric pain,radiating	Cured and	GOOD

				pain,abdominal discomfort	improved	
24	Kalaiselvi	34/F	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food,loss of weight.	Cured and improved	GOOD
25	Senthilvel	30/M	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	Symptoms not relieved	POOR
26	Murali	30/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, diarrhoea, loss of weight.	symptoms relieved	FAIR
27	Latha	41/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food.	Cured and improved	GOOD
28	Vasantha	30/F	4- Weeks	tenderness in epigastric region,Epigastric pain,radiating pain.	Cured and improved	GOOD
29	Sureshbabu	43/M	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort	Cured and improved	GOOD
30	Sriram	32/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food.	symptoms relieved	FAIR
31	Varalakshmi	39/F	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, diarrhoea, loss of weight.	symptoms relieved	FAIR
32	Divyaprasath	37/M	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort	Cured and improved	GOOD
33	Aasha	32/F	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort	Cured and improved	GOOD
34	Aathilakshmi	51/F	4- Weeks	Epigastric pain, heart burn,abdominaldiscomfort, pain related to food, diarrhoea, loss of weight.	symptoms relieved	GOOD
35	Marimuthu	54/M	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort	Cured and improved	GOOD
36	Varathan	53/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to	Cured and improved	GOOD

				food.		
37	Indrakumar	46/M	4- Weeks	Epigastric pain,radiating pain,abdominal discomfort	symptoms relieved	FAIR
38	Nagammal	59/F	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, loss of weight.	Cured and improved	GOOD
39	Anthony	38/M	4- Weeks	tenderness in epigastric region,Episgastric pain,radiating pain.	Cured and improved	GOOD
40	Chandrasekar	32/M	4- Weeks	Epigastric pain, heart burn,abdominal discomfort, pain related to food, diarrhoea, loss of weight.	Cured and improved	GOOD

PATIENT REPORT

Hospital: Anna peripheral hospital, Anna nagar east, Chennai 102.

Op no: 0385989

Patient name: Mr. Suresh baabu

Date: 23.4.2015

Age: 43

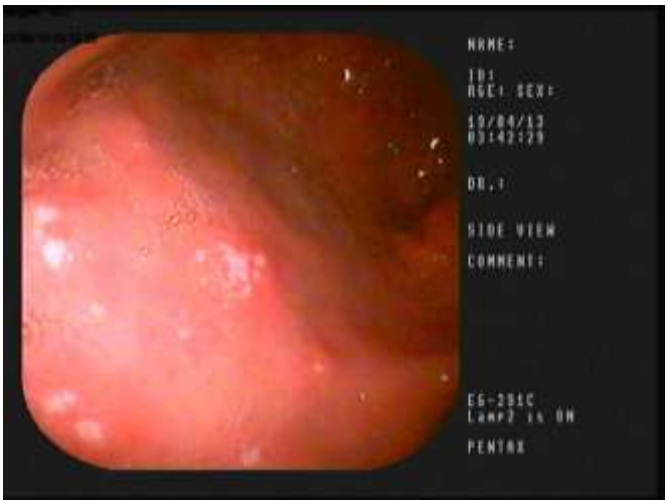
Sex: Male

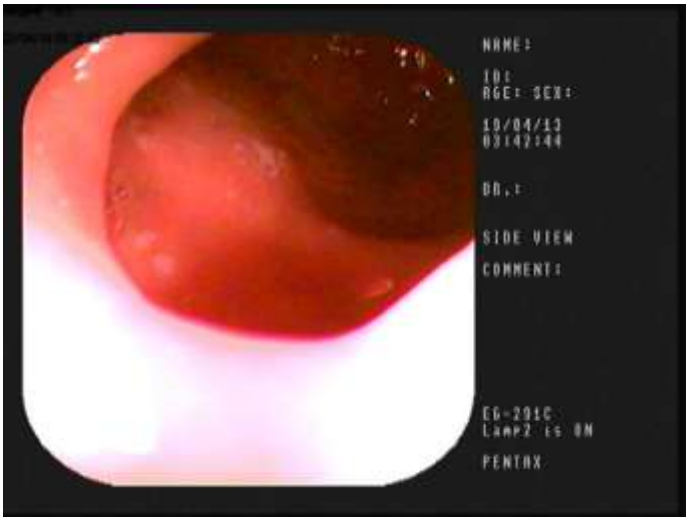
Address:

No.113 south block, Mugappair West.

Chennai- 37.

Mobile: 9092725989





Impression:

1. Grade A distal esophagities
2. Multiple tiny superficial clear based ulcer in anterior wall to first part of duodenum.

PATIENT REPORT

Hospital: Anna peripheral hospital, Anna nagar east, Chennai 102.

Op no: 0385989

Patient name: Mr. Suresh baabu

Date: 21.4.2016

Age: 43

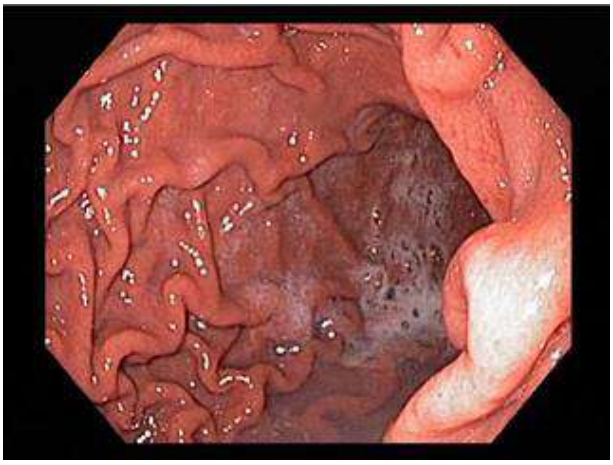
Sex: Male

Address:

No.113 south block, Mugappair West.

Chennai- 37.

Mobile: 9092725989



IMPRESSION:

Oesophagus,fundus,body and pylorus part of the stomach, Ist and IInd part of duodenum is norma

DISCUSSION

40 cases of Eri Gunmam attended the in patient ward in the Post graduate department of Maruthuvam, Aringar anna hospital attached with Govt. Siddha Medical College, Chennai-600 106 during the year 2014-2016.

The patients were examined based on Siddha and as well as modern aspects and all the necessary investigations were made during with the history taking. The results obtained from their studies were discussed below.

1.Age distribution

Among 40 cases, 27.5% of the cases were in the age group from 21 to 30 years, 32.50% of the cases were from 31 to 40, and 32.50% of the cases were from 41 to 50, 7.50% of the cases from 51 to 60.

2.Sex distribution

Among the 40 cases 26 were male and 14 were female.

3.Socio economic status

Among 40 cases, 50% of the cases were poor(below 5000) and 40% of the cases were from middleI(5001 to 10000) cases 10% of the cases from the high income(above 10000) group.

4.Duration of illness

In 40 of the cases the duration of illness was from 1 month to 6 months, 30% of the cases, the duration was from 6 months to 1 year, 35% of the cases, the duration was from 1 year to 3 years, 25% of the cases the duration was from 3 years to 5 years, 5% the cases the duration of illness was from 5 years and above.

5.Clinical features

Among 40 patients 28 patients improved from Epigastric region, Among 16 patients13 patients improved from Heart burn, Among 30 patients 19 patients improved from Abdominal discomfort, Among 30 patients 20 patients improved from pain related to food, Among 12 patients 6 patients improved from radiating pain, Among 30 patients 18 patients relief from tenderness in abdominal region., Among 4 patients 2 patients improved from loss of weight, Among 8 patients 6 got relief from Diarrhoea.

6.Diet

Among 40 cases, 12(30%) were vegetarian, 28(70%) were non-vegetarian.

7.Habit

Among 40 cases, 25% were alcoholic, 25% smokers%, both(alcoholic and smokers) were 12.5%, non users were 37.5%.

8.Nilam Thinai

Among the 40 cases 10% of them marutham, 90% of them neithal.

9.Paruva kalam

Out of 40 cases 10% were in karkalam, 15% were in koothirkalam, 37.5% were in munpanikalam, 17.5% were in pinpanikalam, 27.5% were in ilavenilkalam, 7.5% were in muthuvenil kalam.

10.Kalam

Among 40 cases 35% were in vatha kalam, 65% were in pitha kalam.

11.Mukkutram Reference:

In Vatham

Out of 40 patients Abanan was affected in 8 patients (20%), Viyanan was affected in 40 pateints (100%), Uthanan was affected in 40 patients (100%), Samanan was affected in 40 patients (100%),Koorman was affected in 3 patients, Kirukaran was affected in 18 patients (45%) and devathathan was affected in 9 patients (22.5%).

In Pitham

Out of 40 patients Analagam was affected in 40 patients (100%), Ranjagam was affected in 10 patients (25%), Alosagam was affected in 3 patients, Sathagam was affected in 40 patients (100%).

In kabham

Out of 40 patients, Kiledhagam was affected in 40 patients (100%), Pothagam was affected in 25patients(57.5%), Santhigam was affected in 6 patients (15%).

12.Ezhu Udal Thathukkal :

Out of 40 patients, Saaram was affected in 40 patients (100%), Senneer was affected in 10 patients (25%), Oon was affected in 4 patients(10%), Enbu was affected in 6 patients (15%).

13.Envagai Theyrvugal :

In Envagai thervu,Naa was affected in 20 patients(50%), Niram was affected in 10patients (25%), Malam was affected in 8 patient (20%) and Naadi was affected in 40 patients (100%).

14.Investigations :

40 cases were under routine laboratory investigation at the time of admission and discharge the urine and stool analysis reveals no significant abnormalitites.

15.Blood group:

Among the 40 cases 24 cases were belongs to ‘O’ group, 13 cases were ‘A’ group, 2 cases were belongs to ‘B’ group, 1 case was belongs to ‘AB’ group.

16.Endoscopy investigations:

Out of the 40 cases 40 cases were put to the endoscopy study at the laboratories.

17.Mode of action of the Trial drug:

Based on taste(Suvai)

In the trial drug Pancha Lavana vadagam most of the incredients included in this medicine were uvarpu taste.

Based on Nature (Veeriyam)

The trial drug Pancha Lavana Vadagam is of Thatppam nature as the ingredients in this has thatppa nature.

Pre clinical screenings:

Physicochemical analysis:

- The total ash value of Pancha Lavana Vadagam was 24.04%
- The acid insoluble ash value was 0.25%
- The water soluble ash value was 22.01%
- Alcohol soluble extractive value was 28.77%
- Water soluble extractive value was 68.0%

Qualitative analysis:

In**Pancha Lavana Vadagam,** basic radicals like Nitrate,Chloride,Iron,Calcium, were present.

Toxicological study:

Acute oral toxicity study followed as per OECD 423 guidelines and Sub acute oral toxicity study done as per OECD 407 guidelines revealed no toxicity in the trial medicine.

The LD_{50} of the Pancha Lavana Vadagam is 2000mg/ kg body weight.

Pharmacological study:

Pharmacological activity of Pancha Lavana Vadagam showed significant Anti ulcer activity.

The results of pre clinical screenings have showed in annexure.

- Bio-Chemical analysis (Annexure-1)
- Physico chemical analysis (Annexure-2)

- Toxicological Studies (Annexure-3)
- Pharmacological Studies (Annexure-4)

Results of Clinical Manifestation:

- Among the total 40 patients all were improved both subjectively and objectively.
- The clinical trail study showed significant clinical improvement in certain clinical manifestations of Erigunmam such as Epigastric pain,Anorexia,Abdominal discomfort,Heart burn,Diarrhoea,Weight loss.

Statistical analysis:

- The pre clinical studies (Toxicological and Pharmacological) of trial drug-Pancha Lavana Vadagam was statistically analysed and shows significant
- Statistical analysis of clinical study was done from the subjective and objective parameters observed before and after treatment. They showed highly significant.
- The statistical results of preclinical and clinical study were attached to Annexure 6.

SUMMARY

The pathogenesis of **Eri Gunmam**, clinical features differential diagnosis, prognosis and routine treatment of **Eri Gunmam** mentioned in different Siddha literature were collected.

The pathogenesis of Eri Gunmam resembles the pathogenesis of peptic Ulcer in this study modern investigation were used with a view to understand and explain the disease Eri Gunmam with modern interpretations.

The 40 patients were examined clearly by both Siddha and modern aspects.

- The more prone age group was between 33 to 66th year i.e., in the Pitha kalam.

- Among 40 cases the disease was found predominant among the irregular diet in takes, stress and non-vegetarians and found frequently in people of low income group than rich persons.

- Most of all the patients have abdominal discomfort pain related to food, pain in the epigastric region, Diarrhoea, loss of weight.

- Among the 40 cases, Maximum no cases came from Neithal Nilam and paruva kalam does not interfere in these studies.
- In Vatham

  Abanan(20%),Viyanan(100%),Uthanan(100%),Samanan(100%),Koorman(7.5%) , Kirukaran (45%) and devathathan (22.5%) were affected.
- In Pitham

  Analagam (100%), Ranjagam (25%), Alosagam(7.5%), Sathagam (100%) were affected.
- In kabham

Kiledhagam (100%), Pothagam (57.5%), Santhigam (15%) were affected.

- Among Ezhu udal Thathukkal,Saaram (100%), Senneer (25%), Oon (10%), Enbu (15%).

- Among Envagai thervu,Naa (50%), Niram (25%), Malam (20%) and Naadi 100%).

- In this study most of the patients had reported to belongs to ‘O’ group advised to have regular diet control and physical activities,

- The preparation of the medicines are easy and economical. The effect of the medicines is proved effectful in greater appeals.

CONCLUSION

- The well known common Gastro intestinal disorder ERI GUNMAM was studied in all aspects. All the cases were treated with trail medicines PANCHA LAVANA VADAGAM which was found to be free from side effects.
- The internal medicine of panchalavana vadagam had uppu suvai ,neutralize the increased pitham thereby it acts as oppurai maruthuvam.
- In this study the results and observation showed 65% of the cases show Good results, 25% of the cases show fair results and only 10% of the cases showed poor results.
- Pharmacological study was done for its anti ulcer activity. The results showed PANCHA LAVANA VADAGAM in combination exhibited activity.
- The drug combination in therapeutic doses did not show evidence of toxicity in haematology and biochemical marker levels or liver and kidney functions.
- The antimicrobial study proved it to be effective against various bacteria.
- Phytochemical tests were done which showed the presence of Nitrate,Chloride,Ammonia,Calcium,Iron.
- The preparation of the medicines are easy and economical. The effect of the medicines is proved powerful in greater appeals.

Therefore Author conclude that,the trial drug can give a better solution for Erigunmam patients both curative and preventive.

ANNEXURES

1.CERTIFICATES

The Tamil Nadu Dr.M.G.R. Medical University

#69, Anna salai, Guindy, Chennai-600 032.

This certificate is awarded to

Dr./~~Mr./Ms.~~ PRASANNA . B

for participating as ~~Resource Person~~ / Delegate in the Fourteenth Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post Graduates & Researchers

Organised by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University from 5th to 9th May 2014.

Dr. N. KABILAN M.D. (Siddha)
Reader, Dept. of Siddha

Dr. JHANSI CHARLES, M.D.
Registrar

Prof. Dr. D. SHANTHARAM, M.D., D.Diab.,
Vice-Chancellor

Certificate

This is certify that the project titled Toxicological and pharmacological activity of PANCHALAVANA VADAGAM in rats has been approved by the

IAEC No: IAEC/XLIV/16/CLBMCP/2014

Name of Chairman/ Member Secretary IAEC:

08/09/14

Signature with date

C.L.BAID METHA COLLEGE OF PHARMACY

(An ISO 9001-2000 certified institute)

Jyothi Nagar, Old Mahabalipuram Road

Thoraipakkam, Chennai – 600 097

CERTIFICATE

This is to certify that the project entitled, **Toxicological and Pharmacological study on PANCHALAVANA VADAGAM** in rats submitted in partial fulfilment for the degree of **M.D. (siddha)** was carried out at C.L. Baid Metha college of Pharmacy, Chennai-97, in the Department of Pharmacology during the academic year of 2014-2015.

(Dr.P.Muralidharan)

Mr. P.Muralidharan, M.Pharm, Ph.D
Professor and Head
Department of Pharmacology,
C.L.Baid Metha college of pharmacy,
Chennai-97

சித்த மருத்துவ மைய ஆராய்ச்சி நிலையம், அரும்பாக்கம், சென்னை - 600 106
सिद्ध केन्द्रीय अनुसंधान संस्थान, अरुम्बाक्कम, चेन्नई- 600 106
Siddha Central Research Institute
Arignar Anna Govt. Hospital Campus, Arumbakkam, Chennai-600 106
(Central Council for Research in Siddha, Department of AYUSH,
Ministry of Health & Family Welfare, Govt. of India)
Phone: 044-26214925, Tele Fax: 044-26214809, E.mail: crisiddha@gmail.com, Web: www.crisiddha.tn.nic.in

11th May 2016

CERTIFICATE

Certified that the drugs submitted for identification by Dr. B. Prasanna, PG III year, Department of Pothu maruthuvam, Government Siddha Medical College, Arumbakkam, Chennai - 600 106, are identified as

1. Thippili	-	*Piper longum* L. (Fruit)
2. Thippili moolam	-	*Piper longum* L. (Root)
3. Omam	-	*Trachyspermum ammi* (L.) Sprague (Fruit)
4. Kostam	-	*Saussurea costus* (Falc.) Lipsch. (Root)
5. Poondu	-	*Allium sativum* L. (Bulb)
6. Perungayam	-	*Ferula assa-foetida* L. (Oleo-gum-resin)
7. Panai vellam	-	*Palm jaggery*

Sasikala Ethirajulu

Sasikala Ethirajulu
Consultant (Pharmacognosy)

P.Sathiyarajeswaran
Assistant Director Incharge

சித்த மருத்துவ மைய ஆராய்ச்சி நிலையம், சென்னை — 600 106
सिद्ध केंद्रीय अनुसन्धान संस्थान, अण्णा सरकारी अस्पताल परिसर, अरुम्बाक्कम, चेन्नई - 600106

SIDDHA CENTRAL RESEACH INSTITUTE

(Central Council for Research in Siddha, Ministry of AYUSH, Govt. of India)
Anna Govt. Hospital Campus, Arumbakkam, Chennai – 600106
Phone: 044-2621 4925, Fax: 044-2621 4809
www.crisiddha.tn.nic.in, Email: crisiddha@gmail.com

06.06.2016

CERTIFICATE

Certified that the samples submitted for identification by Dr. B. Prasanna, III year MD Student, Department of Pothu Maruthuvam, Government Siddha Medical College, Chennai-600 106 are identified as Indhuppu – Sodium chloride impura, Valayalluppu - Sodium silicate, Sotruppu – Sodium Chloride, Vediuppu – Potassium nitrate, Kalluppu - Sodium chloride, Navacharam – Ammonium chloride.

(R. Shakila)
Research Officer (Chemistry)

(Dr. P. Sathiyarajeswaran)
Assistant Director (Scientist 2) I/c

Dr. P. SATHIYARAJESWARAN
Assistant Director (Scientist-2) 1/C
Siddha Central Research Institute (CCRS)
Min. of AYUSH, Govt. Of India
Arumbakkam, Chennai-600 106.

GOVERNMENT SIDDHA MEDICAL COLLEGE
Arumbakkam, Chennai-106

Communication Of The Decision Of Institutional Ethical Committee (IEC)

IEC No: GSMC-CH-ME-3/007/2014

Protocol title: AN OPEN CLINICAL STUDY ON ERIGUNMAM (PEPTIC ULCER) WITH THE EVALUATION OF SIDDHA DRUG PANCHALAVANA VADAGAM
Principal Investigator: DR. B. PRASANNA
Name & Address of Institution: Government Siddha Medical College, Arumbakkam, Chennai-106
☐ New Review ☐ Revised Review ☐ Expedited Review
Date of review (DD/MM/YY): 13-06-2014 Date of Previous Review, If Revised Application:
Decision of the IEC ☑ Recommended ☐ Recommended with suggestions ☐ Revision ☐ Rejected
Suggestions / Reasons / Remarks: (i) The tablet should be mentioned as chewable tablet (ii) In investigation, exclude urea breath tat and add USG abdomen, also add LFT in routine.
Recommended for a period of 1 year from date of completion of preclinical studies :

Please Note:

- Inform IEC immediately in case of any adverse events/serious drug reaction.
- Seek IECapproval in case of any change in the study procedure, site and investigator
- This approval is valid only for period mentioned above
- IEC member have the right to review the trial with prior intimation.

13/6/14

Dr.P.Jeyaprakashnarayanan
Chairman

13/6/14

Dr. V.Banumathi
Member Secretary

INSTITUTIONAL ETHICAL COMMITTEE

Date:

Sub: IEC review of research proposals.

Ref: Your letter dated

MEMBERS	PARTICIPATION	SIGNATURE
DR.P.JEYAPRAKASH NARAYANAN M.D(S)., Chairman	✓	
DR.V.BANUMATHI M.D(S)., Member Secretary		13/6/14
DR.N.KABILAN M.D(S)., Clinician- Siddha	✓	13/6/14
DR.P.SATHIYA RAJESWARAN M.D(S)., Clinician- Siddha	✓	
DR.G.AADINATH REDDY,M.Pharm, Ph.D., Pharmacologist	✓	
DR.S.THILAGAVATHY Msc.,Ph.D., Social Scientist	✓	
DR.T.MAHALAKSHMI M.A.,Ph.D., Linguistic Expert	✓	
DR.P.VIDYA M.B.B.S., DMRD., Modern Medicine Expert	✓	
MR.P.SARAVANAN., Public Person	✓	

13/6/14

Dr.P.Jeyaprakashnarayanan M.D(S).,
Chairman

Dr.V.Banumathi M.D(S).,
Member Secretary

ANNEXURES-II

PHYSICO CHEMICAL ANALYSIS

சித்த மருத்துவ மைய ஆராய்ச்சி நிலையம், சென்னை — 600 106
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www.crisiddha.tn.nic.in, Email: crisiddha@gmail.com

06.06.2016

Name of the student: by Dr. B. PRASANNA, III year MD Student.

Department of Pothu Maruthuvam, Government Siddha Medical College, Chennai-600 106

PHYSICO-CHEMICAL ANALYSIS OF PANCHALAVANA VADAGAM

S.No	Physicochemical Parameter		Mean
1.	Loss on Drying at 105°C	:	13.37 %
2.	Total Ash	:	24.04 %
3.	Water soluble Ash	:	22.01 %
4.	Acid insoluble Ash	:	0.25 %
5.	Water Soluble Extractive	:	68.0 %
6.	Alcohol Soluble Extractive	:	28.77 %
7.	pH	:	6.54
8.	Total Sugar	:	18.5 %
TLC/HPTLC		:	Annexed

(R. Shakila)
Research Officer (Chemistry)

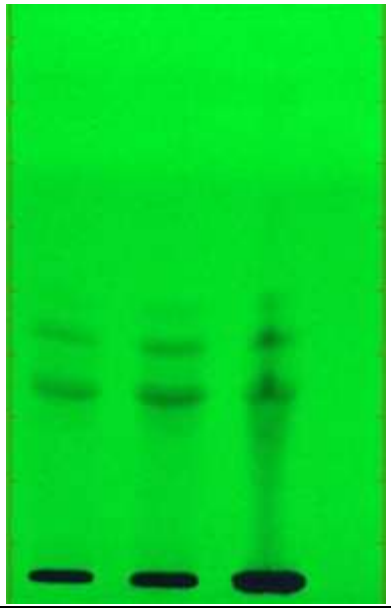
(Dr. P. Sathiyarajeswaran)
Assistant Director (Scientist 2) I/c

Dr. P. SATHIYARAJESWARAN
Assistant Director (Scientist-2) I/C
Siddha Central Research Institute (CCRS)
Min. of AYUSH, Govt. Of India
Arumbakkam, Chennai-600 106.

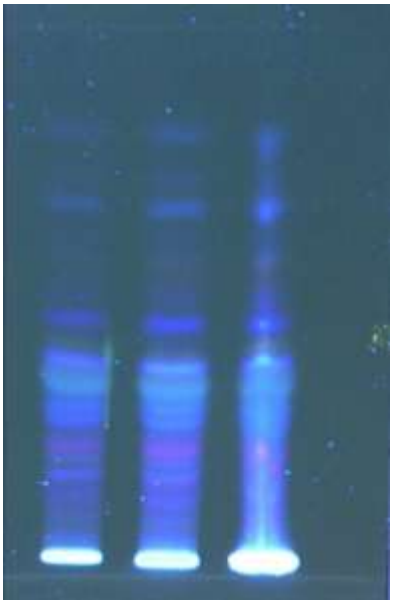
Sample Name: PanchalavanaVadagam

Stationary Phase - Silica Gel 60 F_{254}

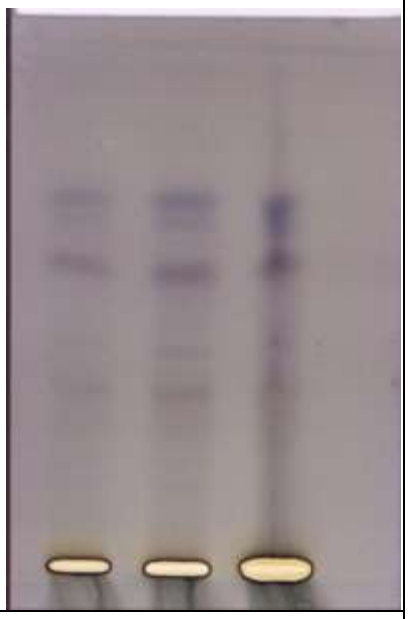
Mobile Phase - Toluene : Ethyl Acetate : Formic Acid (7: 1.5: 0.5 v/v/v)



λ = 254 nm



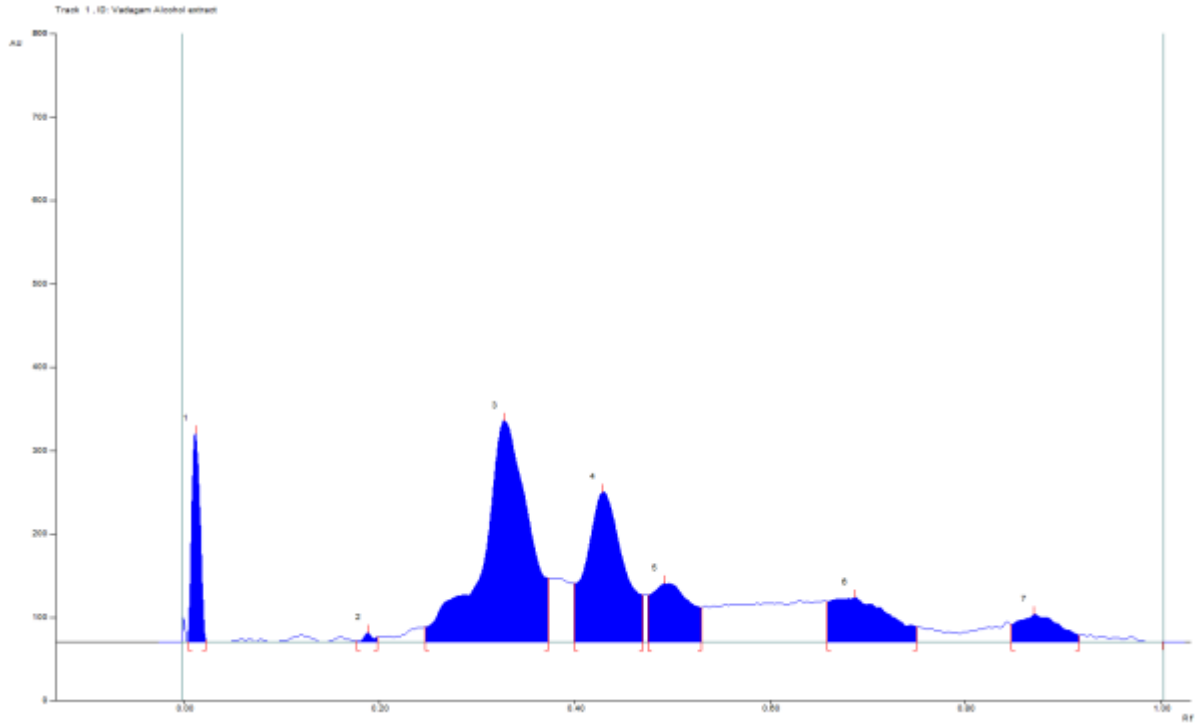
λ = 366 nm



λ = 575 nm (Derivatized)

Color	**R_f value(s)**	**Color**	**R_f value(s)**	**Color**	**R_f value(s)**
Dark Green	0.33	Violet	0.15	Yellow	0.32
Dark green	0.43	Violet	0.18	Light violet	0.40
Light green	0.49	Pink	0.2	Violet	0.54
		Blue	0.24	Light blue	0.64
		Blue	0.27	Dark blue	0.67
		Light blue	0.30		
		Bright blue	0.36		
		Dark blue	0.42		
		Violet	0.54		
		Dark blue	0.64		
		Dark blue	0.77		

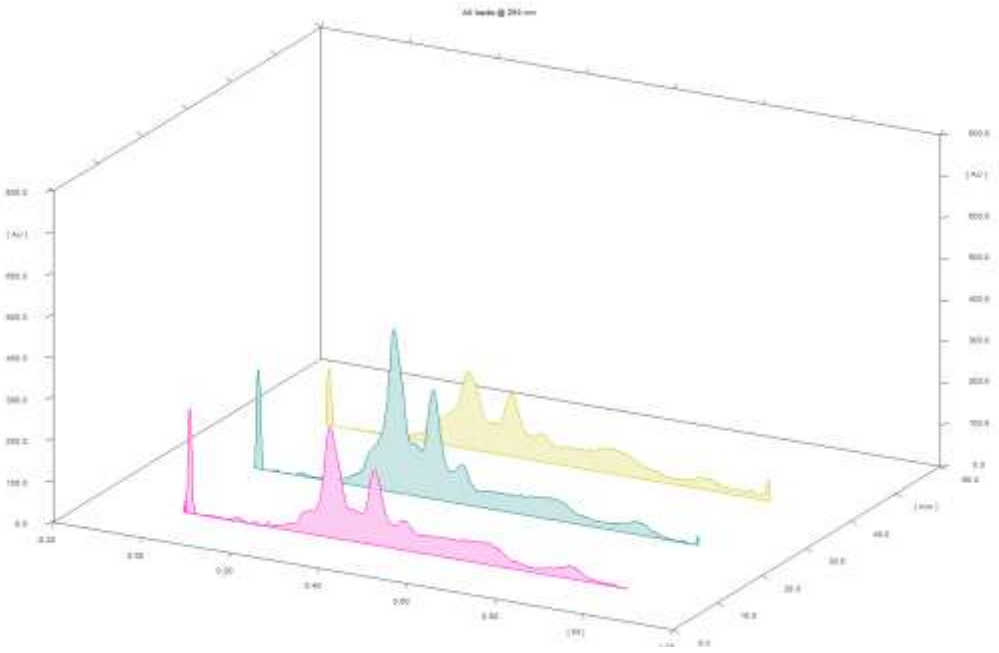
HPTLC Chromatogram @ 254 nm:



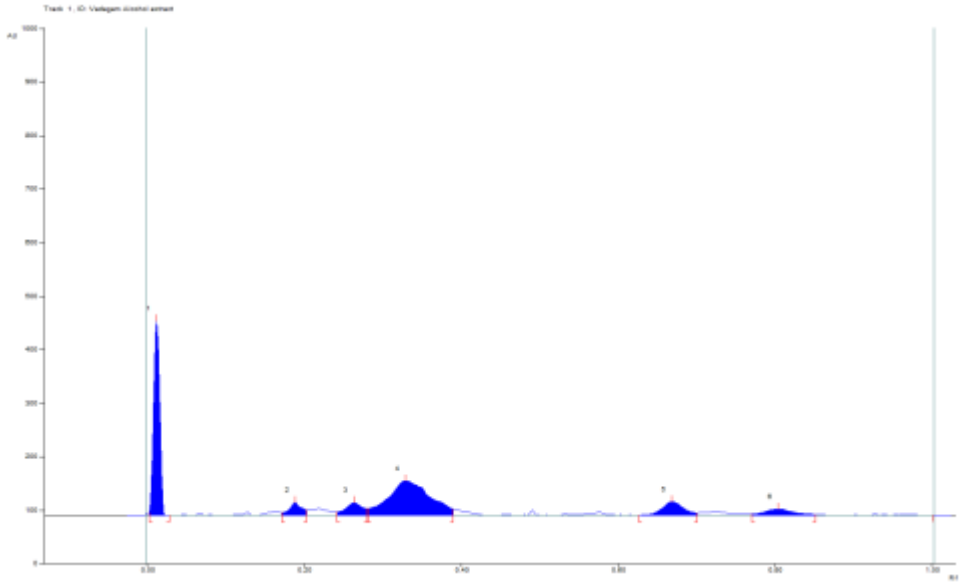
Peak Table @ 254 nm:

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	0.0 AU	0.01 Rf	250.1 AU	28.97 %	0.02 Rf	1.7 AU	1855.1 AU	7.17 %
2	0.18 Rf	0.6 AU	0.19 Rf	11.1 AU	1.28 %	0.20 Rf	5.8 AU	86.2 AU	0.33 %
3	0.25 Rf	17.7 AU	0.33 Rf	265.4 AU	30.75 %	0.37 Rf	76.2 AU	11162.9 AU	43.12 %
4	0.40 Rf	69.9 AU	0.43 Rf	180.4 AU	20.89 %	0.47 Rf	56.1 AU	6197.8 AU	23.94 %
5	0.48 Rf	56.6 AU	0.49 Rf	70.0 AU	8.11 %	0.53 Rf	40.7 AU	2492.4 AU	9.63 %
6	0.66 Rf	48.5 AU	0.69 Rf	53.1 AU	6.15 %	0.75 Rf	17.9 AU	2840.5 AU	10.97 %
7	0.85 Rf	20.9 AU	0.87 Rf	33.1 AU	3.84 %	0.92 Rf	8.4 AU	1254.1 AU	4.84 %

3D Chromatogram @ 254 nm:



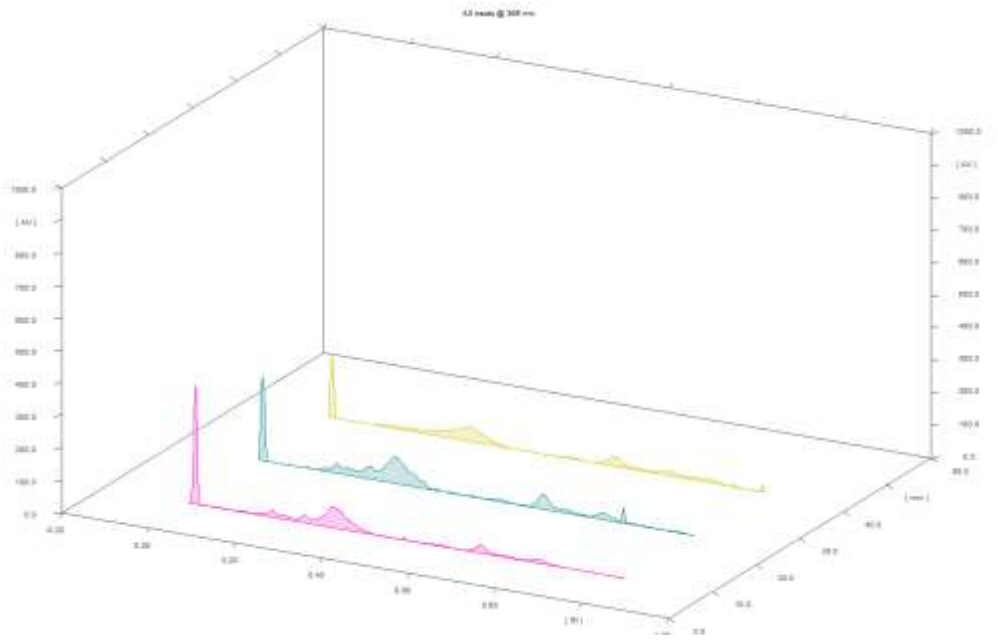
HPTLC Chromatogram @ 366 nm:



Peak Table @ 366 nm:

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	5.0 AU	0.01 Rf	362.6 AU	70.96 %	0.03 Rf	0.0 AU	2522.5 AU	34.09 %
2	0.17 Rf	5.3 AU	0.19 Rf	23.8 AU	4.66 %	0.20 Rf	9.6 AU	328.9 AU	4.44 %
3	0.24 Rf	6.5 AU	0.26 Rf	23.4 AU	4.57 %	0.28 Rf	12.4 AU	464.7 AU	6.28 %
4	0.28 Rf	12.4 AU	0.33 Rf	64.5 AU	12.62 %	0.39 Rf	11.5 AU	3074.5 AU	41.55 %
5	0.63 Rf	0.3 AU	0.67 Rf	25.4 AU	4.96 %	0.70 Rf	4.3 AU	621.9 AU	8.40 %
6	0.77 Rf	2.1 AU	0.80 Rf	11.4 AU	2.22 %	0.85 Rf	1.5 AU	387.0 AU	5.23 %

3D Chromatogram @ 366 nm:



ANNEXURE-III

BIO CHEMICAL ANALYSIS

ANNEXURE-III
BIO-CHEMICAL ANALYSIS OF TRIAL MEDICINES

Preparation of Sodium Carbonate extract:

2 gm of the sample drug is mixed 5 gm of Sodium carbonate and taken in a 100 ml beaker and 20 ml of distilled water is added. The solution is boiled for 10 minutes, cooled and then filtered. The filtrate is called sodium carbonate extract.

S.No	EXPERIMENT	OBSERVATION	INFERENCE
I	**TEST FOR ACID RADICALS**		
1a	**Test for Sulphate** 2 ml of the above prepared extractis taken in a test tube. To this add2ml of 4% Ammonium oxalatesolution.	Absence of White Precipitate	Absent
b	2ml of extract is added with 2mlof dilute hydrochloric acid untilthe effervescence ceases off. Then2ml barium chloride solution isadded.	Absence of White Precipitate	Absent
2	**Test for Chloride:** 2ml of extract is added with dilutenitric acid till the effervescenceceases. Then 2ml of silver nitratesolution is added.	white precipitate is Obtained	present

3	**Test for Phosphate** 2ml of the extract is treated with 2 ml of Ammonium molybdate solution and 2ml of concentrated nitric acid.	Absence of Yellow precipitate.	Absent
4	**Test for Carbonate:** 2ml of the extract is treated with 2ml of magnesium sulphate solution.	Absence of white Precipitate	Absent
5	**Test for Sulphide:** 1 gm of the substance is treated with 2ml of concentrated Hydrochloric acid	Absence of Rotten egg smelling	Absent
6	**Test for Nitrate:** 1gm of the substance is heated with copper turnings and concentrated sulphuric acid and viewed the test tube vertically down.	Absence of reddish brown gas.	Absent
7a	**Test for Fluoride and oxalate** 2ml of the extract is added with 2ml of dilute acetic acid and 2ml of calcium chloride solution and heated.	Absence of White precipitate	Absent
B	5 drops of clear solution is added with 2ml of dilute sulphuric acid and slightly warmed to this, 1 ml of dilute potassium permanganate solution is added.	Absence of KMNO4 solution Discolourisation	Absent

8	**Test for Nitrite** 3 drops of the extract is placed on a filter paper. On that, 2 drops a Acetic Acid and 2 drops of Benzidine solution is placed.	Presence of yellowish red colour	Present
9	**Test for Borate** 2 pinches of the substance is made into paste by using Sulphuric acid and Alcohol (95%) and introduced into the blue flame.	Absence of Green tinged flame	Absent
II	**TEST FOR BASIC RADICALS**		
10	**Test for lead** 2 ml of the extract is added with 2 ml of Potassium iodide solution.	Absence of Yellow precipitate	Absent
11a	**Test for Copper** One pinch of substance is made into paste with concentrated Hydrochloric acid in a watch glass and introduced into the non luminous part of the flame.	Absence of Bluish green coloured flame.	Absent
b	2ml of the extract is added with excess of Ammonia solution	Absence of deep blue	Absent
12	**Test for Aluminium** To the 2 ml of extract. Sodium Hydroxide solution is added in	Absence of White Precipitate.	Absent

	drops to excess.		
13a	**Test for Iron** To the 2 ml of extract, 2 ml of Ammonium Thiocyanate Solution is added.	Blood red colour	Present
B	To the 2 ml of extract, 2 ml of Ammonium Thiocyanate solution and 2 ml of concentrated HNO_3 isadded.	Blood red colour obtained	Present
14	**Test for Zinc** To the 2 ml of extract Sodium Hydroxide solution is added in drops to excess.	Absence of White precipitate.	Absent
15	**Test for Calcium** 2 ml of the extract is added with 2 ml of 4% Ammonium Oxalate solution.	Absence of White precipitate.	Absent
16	**Test for Magnesium** 2ml of extract, Sodium Hydroxide solution is added in drops to excess.	Absence of White precipitate.	Absent
17	**Test for Ammonium** 2 ml of extract few ml of Nessler's Reagent and excess of Sodium Hydroxide solution are added.	Presence of Reddish brown Precipitate	Present
18	**Test for Potassium** A pinch of substance is treated with 2 ml of Sodium Nitrite	Absence of Yellow precipitate	Absent

	solution and then treated with 2 ml of Cobal Nitrate in 30% glacial Acetic acid.		
19	**Test for Sodium** 2 pinches of the substance is made into paste by using Hydrochloric acid and introduced into the blue flame	Absence of Yellow colour flame	Absent
20	**Test for Mercury** 2 ml of the extract is treated with 2 ml of Sodium Hydroxide solution.	Absence of yellow Precipitate	Absent
21	**Test for Arsenic** 2 ml of extract is treated with 2 ml of silver Nitrate solution	Absence of Yellow precipitate	Absent
22	**Test for Starch** 2ml of extract is treated with weak iodine solution	Absence of Blue colour	Absent
23	**Test of reducing Sugar** 5ml of Benedicts qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 10 drops of the extract and again boiled for 2 minutes. The colour changes are noted.	Absence of Green colour	Absent
24	**Test of the alkaloids** 2ml of the extract is treated with 2ml of potassium lodide solution.	Absence of Red colour	Absent

25	**Test of the proteins** 2ml of the extract is treated with 2ml of 5% NaOH ,mix well and add 2 drops of copper sulphate solution.	Absence of Violet colour	Absent

RESULTS:

The given sample (Pancha lavana vadagam) contains

Chloride,Nitrate, Ammonia, Iron

ANNEXURE-IV

TOXICOLOGICAL STUDY

ACUTE ORAL TOXICITY – OECD GUIDELINES – 423

Acute toxicity study was carried out as per OECD guideline (Organization for Economic Co - operation and Development, Guideline-423

Animal: Healthy wistar albino female rat weighing 200–220 gm

Studied carried out at three female rat under fasting condition, signs of toxicity was observed for every one hour for first 24 hours and every day for about 14 days from the beginning of the study.

INTRODUCTION:

The acute toxic class method is a stepwise procedure with the use of 3 animals of a single sex per step. Depending on the mortality and/or the moribund status of the animals, on average 2-4 steps may be necessary to allow judgment on the acute toxicity of the test substance. Morbid animals or animals obviously in pain or showing signs of severe and enduring distress shall be humanely killed, and are considered in the interpretation of thetest results in the same way as animals that died on test. The method allows for the determination of an LD50 value only when at least two doses result in mortality higher than 0% and lower than 100%.

PRINCIPLE:

It is the principle of the test that based on a stepwise procedure with the use of a minimum number of animals per step, sufficient information is obtained on the acute toxicity of the test substance to enable its classification. The substance is

administered orally to a group of experimental animals at one of the defined doses. The substance is tested using a stepwise procedure, each step using three animals of a single sex. Absence or presence of compound-related mortality of the animals dosed at one step will determine the next step, i.e.; − no further testing is needed − dosing of three additional animals with the same dose − dosing of three additional animals at the next higher or the next lower dose level. The method will enable a judgment with respect to classifying the test substance to one of a series of toxicity classes.

METHODOLOGY

Selection of animal species:

The preferred rodent species is rat, although other rodent species may be used. Healthy young adult animals of commonly used laboratory strain Swiss albino is used.Females should be nulliparous and non-pregnant. Each animal at the commencement of its dosing should be between 8 and 12 weeks old and its weight should fall in an interval within±20 % of the mean weight of the animals.

Housing and feeding conditions:

The temperature in the experimental animal room should be 22ºC (+3ºC). Although the relative humidity should be at least 30% and preferably not exceed 70% other than during room cleaning the aim should be 50-60%. Lighting should be artificial, the sequence being 12 hrs light, 12 hrs dark. For feeding, conventional laboratory diets may be used with an unlimited supply of drinking water. Animals may be grouped and tagged by dose, but the number of animals per cage must not interfere with clear observations of each animal.

Preparation of animals:

The animals are randomly selected, marked to permit individual identification, and kept in their cages for at least 7 days prior to dosing to allow for acclimatization to the laboratory conditions

Observation done:

Group	Day
Body weight	Normal
Assessments of posture	Normal
Signs of Convulsion Limb paralysis	Absence (-)
Body tone	Normal
Lacrimation	Absence
Salivation	Absence
Change in skin color	No significant colour change
Piloerection	Normal
Defecation	Normal
Sensitivity response	Normal
Locomotion	Normal
Muscle gripness	Normal
Rearing	Mild
Urination	Normal

Dose mg/kg	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
2000	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-

1.*Alertness 2.Aggressiveness 3. Pile erection 4. Grooming 5.Gripping 6. Touch Response 7. Decreased Motor Activity 8.Tremors 9 Convulsions 10. Muscle Spasm 11. Catatonia 12.Musclerelaxant 13.Hypnosis 14.Analgesia15.Lacrimation 16. Exophthalmos 17. Diarrhea 18. Writhing 19 Respiration 20. Mortality*

Acute toxicity:

In the acute toxicity study, the rats were treated with different concentration of Panchalavanavadagamfrom the range of 5mg/kg to 2000mg/kg which did not produce signs of toxicity, behavioral changes, and mortality in the test groups as compared to the controls when observed during 14 days of the acute toxicity experimental period. These results showed that a single oral dose of the extract showed no mortality of these rats even under higher dosage levels indicating the high margin of safety of this extract. In acute toxicity test thePanchalavanavadagamwas found to be non toxic at the dose level of 2000mg/ kg body weight.

Acute toxicity test

The dose selected for the sub acute toxicity study was 100mg, 200mg/kg of Panchalavanavadagam. All the animals were free of intoxicating signs throughout the dosing period of 28 days. No physical changes were observed throughout the dosing period. No mortality was observed during the whole experiment. No abnormal deviations were observed. No significant changes were observed in the values of different

parameters studied when compared with controls and values obtained were within normal biological and laboratory limits. The weights of organs recorded did not show any significant differences in the treatment and the control group indicating that Panchalavanavadagamwas not toxic to kidney, liver and spleen There was no significant changes were observed in hemoglobin (Hb), red blood cell (RBC), white blood cell (WBC), packed cell volume (PCV), Erythrocyte sedimentation rate (ESR) in all the treated groups as compared to respective control groups. Histopathology studies were carried out on liver, kidney and spleen and recorded

SUB ACUTE REPORTS

Panchalavanavadagam(100 mg/kg)

HAEMOTOLOGY

CBC

WBC	:	8,000 cells/cumm
Differential Count		
NEUTROPHILLS	:	13%
LYMPHOCYTES	:	86 %
EOSINOPHILS	:	01 %
MONOCYTES	:	00 %
RBC	:	7.27 millions/cumm
HB	:	14.9 gms%
PCV	:	47.6 %
MCV	:	65.5 fL
MCH	:	20.5 pg
MCHC	:	31.3 Grams/dl
PLATELET	:	5.5 Lakhs/cumm

BIOCHEMISTRY

Blood sugar	: 101 mg/dl
BUN	: 43.1 mg/dl
Creatinine	: 0.7 mg/dl
SGOT	: 153 U/L
SGPT	: 122 U/L
ALP	: 154 U/L
T.Protein	: 8.2 grams/dl
Albumin	: 3.8 grams/dl

LIPID PROFILE

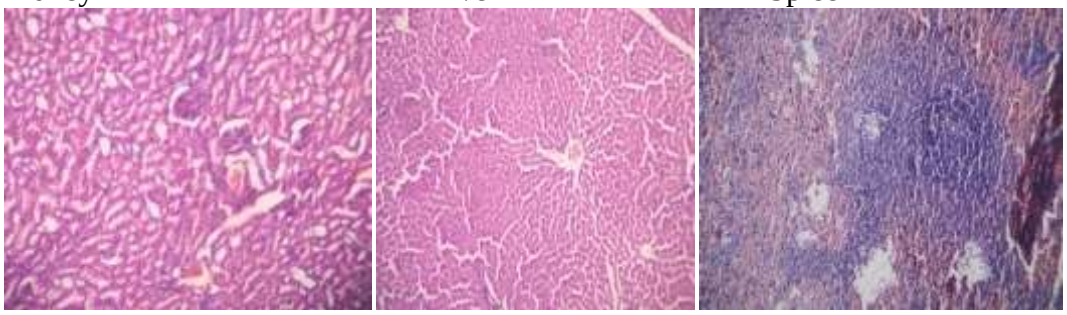
T. Cholesterol	: 111 mg/dl
Triglycerides	: 69 mg/dl
HDL	: 25 mg/dl
LDL	: 72.2 mg/dl

VLDL	:	13.8 mg/dl
Ratio 1(T.CHO/HDL)	:	4.44
Ratio 2(LDL/HDL)	:	2.89

HISTOPATHOLOGICAL REPORT

Panchalavanavadagam (100mg/kg)

Kidney Liver Spleen



Panchalavanavadagam (200 mg/kg)

HAEMOTOLOGY

CBC

WBC	:	5,200 cells/cumm
Differential Count		
NEUTROPHILLS	:	10%
LYMPHOCYTES	:	89 %
EOSINOPHILS	:	01 %
MONOCYTES	:	00 %
RBC	:	8.98 millions/cumm
HB	:	16.9 gms%
PCV	:	53.6 %
MCV	:	59.7 Fl
MCH	:	18.8 pg
MCHC	:	31.5 Grams/dl
PLATELET	:	7.20 Lakhs/cumm

BIOCHEMISTRY

Blood sugar	:	90 mg/dl
BUN	:	52.8 mg/dl
Creatinine	:	0.9 mg/dl
SGOT	:	72 U/L
SGPT	:	49 U/L
ALP	:	135 U/L
T.Protein	:	8.1 grams/dl
Albumin	:	3.1 grams/dl

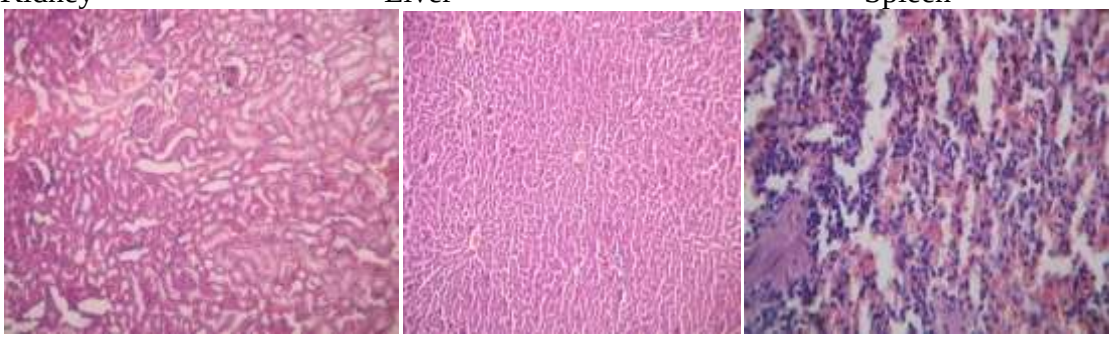
LIPID PROFILE

T. Cholesterol	:	112 mg/dl

Triglycerides	: 69	mg/dl
HDL	: 26	mg/dl
LDL	: 72.2	mg/dl
VLDL	: 13.8	mg/dl
Ratio 1(T.CHO/HDL)	: 4.30	
Ratio 2(LDL/HDL)	: 2.77	

Panchalavanavadagam (200Mg/KG)

Kidney Liver Spleen



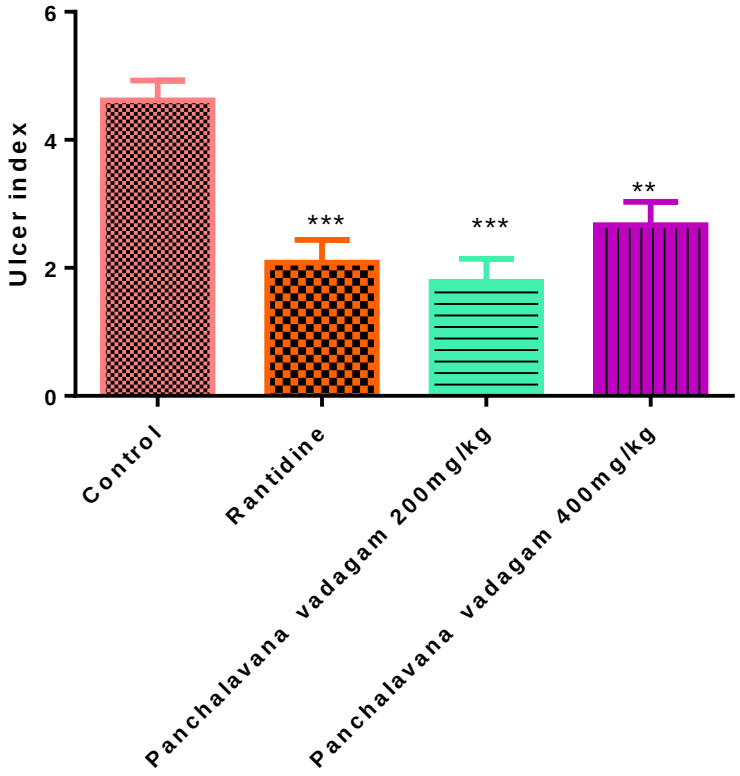
ANNEXURE-V

PHARMACOLOGICAL STUDY

Effect of Panchalavanavadagam on Aspirin induced gastric ulcer in rats

Treatment	Dose	Aspirin Induced Ulcer Index	Aspirin % of Ulcer Protection
Control	2ml/kg	4.61±0.31	-
Standard (Rantidine)	27 mg/kg	2.31±0.35 ***	89.56 *
Panchalavana vadagam	200mg/kg	1.78±1.27 ***	29.38 ***
Panchalavana vadagam	400mg/kg	2.66±1.56 **	38.17 ***

Data are expressed as mean ± SEM (n=6). Statistical analysis by One way ANOVA followed by Dunnett's multiple comparison test * P<0.05, ** P<0.01, *** P<0.001 compared to control.



Aspirin-induced gastric ulcer:

One day before the induction of ulcers, animals were divided into groups (n=6) and drugs/vehicle was administered as follows. Group I received 2 ml/kg vehicle (1% gum acacia), group II received ranitidine (27 mg/kg body weight), groups III and IV received Panchalavanavadagam doses of 200 and 400mg/kg body weight respectively, per orally. The animals were then fasted (with free access to water) for a period of

24 h so as to ensure complete gastric emptying and a steady state gastric acid secretion. The 24 h fasted animals were again administered with the drugs/vehicle on the morning of the experiment. Sixty minutes after administration of the drugs/vehicle, aspirin was administered in a dose of 500 mg/kg body weight orally to all the animals. Food was withheld for duration of 5 more hours. Animals were then sacrificed by an overdose of anaesthetic ether. The stomach was dissected out and a small opening was made along the greater curvature. All the gastric content was drained into a graduated centrifuge tube and used for biochemical estimations. The stomach was then cut open along the greater curvature and evenly spread out on a dissection board. A transparent film was placed over it and the boundary of the stomach and ulcerated area was traced on the film. The mucosal surface was then gently scraped with a blunt surface to collect the adherent mucus.

Reference:

- Parmar NS, Desai JK. A review of the current methodology for the evaluation of gastric and duodenal anti-ulcer agents. Indian J Pharmacol 1993; 25 : 120-35

Group – I Normal saline **Group – II- Rantidine**
Group III- Panchalavanavadagam 200 mg/kg **Group IV- Panchalavanavadagam 400mg/kg**

ANNEXURE-VI

BIOSTATISTICAL ANALYSIS

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CLINICAL PROGNOSIS

Treatment for Erigunmam:

The most popular non parametric statistical tool, namely, McNemar Test analysis has been employed to analyses the effectiveness with the help of a hypothesis.

S. No	Signs&Symptoms	Before Treatment	After Treatment
		n%	n%
1.	Epigastric pain	40(100)	12(30)**
2.	Heart burn	16(40)	3(7.5)**
3.	Abdominal discomfort	30(75)	11(27.5)**
4.	Pain related to food	30(75)	10(25)**
5.	Radiating pain	12(30)	6(15)*
6.	Tenderness in epigastric region	30(75)	12(30)**
7.	Loss of weight	4(10)	2(5)*
8.	Diarrhoea	8(20)	2(5)*

McNemat test, C.I: 95%, *P<0.05; **P<0.01

Software: spss17 version

Number of cases: 40

Inference:

Since the p value is significant in all signs and symptoms.So there is significant reducing of signs & symptoms among the patients for the treatment of Erigunmam.Hence it is concluded that the treatment was effectiveand **significant.**

ANNEXURE-VII
CONSENT FORM

ANNEXURE-VII

GOVERNMENT SIDDHA MEDICAL COLLEGE

ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE

CHENNAI – 600 106

CLINICAL STUDY ON **"PANCHA LAVANA VADAGAM"** IN THE TREATMENT OF

"ERIGUNMAM" (PEPTIC ULCER).

FORM V: INFORMED CONSENT FORM

*"**I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.***

***I consent voluntarily to participate in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care**".*

"I have received a copy of the information sheet/consent form".

Date:

Station:

Signature of participant:

Signature of the Guide: Signature of the Investigator:

அரசினர் சித்த மருத்துவக் கல்லூரி,சென்னை 106.

அறிஞர் அண்ணா மருத்துவமனை, சென்னை 106

எரிகுன்மநோய்க்கான சித்த மருந்தின் (பஞ்சலவண வடகம்)பரிகரிப்பு திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான நோயாளியின் ஒப்புதல் படிவம்.

ஆய்வாளரால் சான்றளிக்கப்பட்டது:

நான் இந்த ஆய்வை குறித்த அனைத்து விபரங்களையும் நோயாளிக்குப் புரியும் வகையில் எடுத்துரைத்தேன்.

தேதி: கையொப்பம்:

இடம்: பெயர்:

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மையையும், மருத்துவ வழிமுறையையும் மற்றும் தொடர்ந்து எனது உடல் இயக்கத்தை கண்காணிக்கவும், அதனை பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது , காரணம் எதுவும் கூறாமல், எப்போது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்துக் கொள்ளும் உரிமையை தெரிந்திருக்கிறேன். நான் என்னுடைய சுதந்திரமாக தேர்வு செய்யும் உரிமையைக் கொண்டு எரிகுன்மநோய்க்கான பஞ்சலவண வடகம்பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி: கையொப்பம்:

இடம்: பெயர்:

உறவுமுறை: சாட்சிக்காரர் கையொப்பம்:

தேதி: பெயர்:

இடம்:

துறைத்தலைவர் கையொப்பம் ஆய்வாளர் கையொப்பம்

ANNEXURE-VIII

CASE SHEET PROFORMA

ANNEXURE-VIII

CASE SHEET PROFORMA FOR ERIGUNMAM

GOVT.SIDDHA MEDICAL COLLEGE&HOSPITAL, CHENNAI-106

POST GRADUATE DEPARTMENT BRANCH –I MARUTHUVAM

Duration: 2014-2016

Op No / Ip No	:	Occupation	:
Ward No	:	Income	:
Bed No	:	Nationality	:
Name	:	Religion	:
Age	:	D.O.A	:
Sex	:	D.O.D	:
Address	:	Diagnosis	:

1. Complaints and duration :

2. History of present illness :

3. History of past illness :

4. Personal history :

5. Occupational history :

6. Personal Habits :Veg/nonveg/smoker/Alcocoholic/Tobacco chewer

7. Family History :

8.Obstetric History :

GENERAL EXAMINATION

Patient consciousness :

Body Built :

Nourishment :

Anaemia :

Jaundice :

Cyanosis :

Clubbing :

JVP :

Tracheal deviation :

Pedal oedema :

Lymph adenopathy :

VITAL SIGNS

Body Temp :

Pulse :

Respiratory rate :

Blood Pressure :

Weight :

SIDDHA ASPECT

NILAM

Kurinchi :

Mullai :

Marutham :

Neithal :

Palai :

YAAKKAI(Udal)

Vaatham :

Pitham :

Kabam :

Kalappu :

GUNAM

Satthuvam :

Rajotham :

Thamasam

PARUVA KALAM

Kaar :

Koothir :

Munpani :

Pinpani :

Elavenil :

Muduenil :

PORI/PULANGAL (SENSORY ORGANS)

Mei –Sensation :

Vaai – Taste :

Kan – Vision :

Mooku - Smell :

Sevi – Hearing :

KANMENTHRIYAM/KANNMA VIDAYAM [MOTOR ORGANS]

Kai- Dhaanam :

Kaal-Kamanam :

Vaai-Vasanam :

Eruvaai- Visarkkam :

Karuvaai-Aanantham :

UTHKAAYA ATHAKAAYAM

Puyam[forearm] :

Sayam[arm] :

Kaal[leg] :

Paaatham[feet] :

UYIR THATHUKKAL

A.VATHAM

Piranan :

Abanan :

Viyanan :

Udanan :

Samanan :

Nagan :

Koorman :

Kirukaran :

Devathathan :

Thananjeyan :

B.PITHAM

Anar pitham :

Ranjaga pitham :

Saathaga pitham :

Pirrasaga pitham :

Alosaga pitham :

C.KAPAM

Avalambagam :

Kilethagam :

Pothagam :

Tharpagam :

Santhigam :

UDALTHAATHUKKAL

Saaram :

Senner :

Oon :

Kozhuppu :

Enbu :

Moolai :

Sukkilam/Suronitham :

ENVAGAI THERVUGAL

1.Naa :

2.Niram :

3.Mozhi :

4.Vizhi :

5.Sparisam :

6.Malam :

7.Moothiram

a)Neer Kuri :

Niram :

Manam :

Edai :

Nurai :

Enjal :

b)Nei Kuri :

8.Naadi :

MODERN ASPECT

Sytemic Examination

Inspection :

Palpation :

Percussion :

Auscultation :

Others Systems

Cardio Vascular System :

Respiratory system :

Central nervous system :

Genito urinary system :

Endocrine system :

CLINICAL SIGN AND SYMPTOMS OF ERIGUNMAM

Symptoms	Before Treatment	After treatment			
1.Epigastric pain and burning with related to food					
2. Loss of appetite					
3. Nausea					
4.Vomiting					
5. Anorexia					
6.Bloating and fullness of stomach					
7.Weight loss					

INVESTIGATION

1. BLOOD

TC, DC, ESR, Hb

Bleeding time, Clotting time

Blood sugar

Blood urea

Serum cholesterol

VDRL

T3,T4,TSH

FSH,LH

2. URINE

Albumin

Sugar

Deposits

3.SPECIAL INVESTIGATION:

ENDOSCOPY

CASE SUMMARY

DIAGNOSIS

TRIAL DRUG : PANCHA LAVANA VADAGAM

Dose : 1 gm; Twice a day

Anubanam : Hot water

Duration of Treatment : 30 days.

Pathiam (Do's and Don'ts)

Prognosisat the end of the Treatment.

Medical Officer Signature: HOD

BIBLIOGRAPHY

BIBLIOGRAPHY

1. 1.Siddha Maruthuvanga Churukkam By Dr.C.S.Uthamarayan, Hpim.Department Of Indian Medicine, Governmentnof Tamil Nadu, 1983. Page 36.

   41.1.Siddha Maruthuvanga Churukkam By Dr.C.S.Uthamarayan, Hpim.Department Of Indian Medicine, Governmentnof Tamil Nadu, 1983. Page-37

2. 2.Therayar maruthuva bharatham by sadasivam 1986.page no-28

3. 3.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -108

4. 4.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -270

   32.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -270

   33.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -282

   34.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -298

   35.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -299

   37.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -299

   38.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -299

   42.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -27

   44.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -.117

   45.Dr. M. Shanmugavelu, H.B.I.M, Noi Nadal Noi Mudhal Nadal Thirattu, Indian Medicine and Homeopathy, Fourth Edition 2006, Pg -118.

5. 5.MALHOTRA SL PEPTIC ULCER IN INDIA AND ITS AETIOLOGY .gut . 1964. Page no.412-416

6. 6.Vaithiya thirattu by sadasivam tanjavoor saraboji mahal library reference page no.112

7.Vaithiya thirattu by sadasivam tanjavoor saraboji mahal library reference page no.112

66.Vaithiya thirattu by sadasivam tanjavoor saraboji mahal library reference page no.112

7. 8.Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren,Thamarai Publication, Chennai-26.Page-65.

14. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-66.

15. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-66.

16. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-67.

17. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-67.

18. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-67.

19. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-67

20. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-68.

21. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-68.

39. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-67.

39. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-88.

40. Yugi Vaidhiya Chinthamani 800, Dr.K.Anbarasu, B.S.M.S, Printers S.P.Ramachandren, Thamarai Publication, Chennai-26.Page-89.

8. 9.Pathartha Gunachinthamani, Printers R.C.Mohan, Thamarai Publication, Chennai -26.Page no-76

9. 10.Agathiya Maamunivar Guru Naadi Saathiram235, Page 21. B.Rathina Nayakar and Sons,Chennai- 79 page no-21

26.Agathiya Maamunivar Guru Naadi Saathiram235, Page 21. B.Rathina Nayakar &Sons,Chennai- 79 page no-21

28.Agathiya Maamunivar Guru Naadi Saathiram235, Page 21. B.Rathina Nayakar &no- Sons,Chennai- 79 page no-21

10. 10..Agathiya Munivar Aruliya Agathiyar Kanma Kandam 800,Muthar Pathippu 1901,Page-16

11. 13.Thirumoolar Karukkadai Vaithiyam 600,Page 44, Thamarai Publication, S.P.Ramachandren

22.Thirumoolar Karukkadai Vaithiyam 600,Page 43, Thamarai Publication, S.P.Ramachandren.

24.Thirumoolar Karukkadai Vaithiyam 600,Page 44, Thamarai Publication, S.P.Ramachandren.

25.Thirumoolar Karukkadai Vaithiyam 600,Page 44, Thamarai Publication, S.P.Ramachandren.

25.Thirumoolar Karukkadai Vaithiyam 600,Page 44, Thamarai Publication, S.P.Ramachandren.

12. 27.Agathiyar Vaidhiya Kaviyam 1500, Page 29, Thamarai Publication, S.P.Ramachandren.

13. 31.Agathiyar vaithiya Vallathi 600, Page 18, Thamarai Publication, S.P.Ramachandren

14. 43.Theran venba page no-132 .Thamarai Publication, S.P.Ramachandren.

15. 57.Gunapadam Part 2, Thathu Jeevam, (Directorate Of Indian Medicine And Homeopathy
2002), Dr. Thiyagarajan, Lim. 4th Edition, 1992,Page 371.

58.Gunapadam Part 2, Thathu Jeevam, (Directorate Of Indian Medicine And Homeopathy2002), Dr. Thiyagarajan, Lim. 4th Edition, 1992,Page 384

59.Gunapadam Part 2, Thathu Jeevam, (Directorate Of Indian Medicine And Homeopathy
2002), Dr. Thiyagarajan, Lim. 4th Edition, 1992,Page 432.

60.Gunapadam Part 2, Thathu Jeevam, (Directorate Of Indian Medicine And Homeopathy
2002), Dr. Thiyagarajan, Lim. 4th Edition, 1992,Page 380.

16. 61.Gunapadam Part 1, Mooligai Vaguppu,Vaithiya Rathinam, K.S.Murugesha Mudhaliyar,(Directorate Of Indian Medicine And Homeopathy).Page174.

62.Gunapadam Part 1, Mooligai Vaguppu,Vaithiya Rathinam, K.S.Murugesha Mudhaliyar,(Directorate Of Indian Medicine And Homeopathy).Page514.

63.Gunapadam Part 1, Mooligai Vaguppu,Vaithiya Rathinam, K.S.Murugesha Mudhaliyar,(Directorate Of Indian Medicine And Homeopathy).Page405.

64.Gunapadam Part 1, Mooligai Vaguppu,Vaithiya Rathinam, K.S.Murugesha Mudhaliyar,(Directorate Of Indian Medicine And Homeopathy).Page846.

65.Gunapadam Part 1, Mooligai Vaguppu,Vaithiya Rathinam, K.S.Murugesha Mudhaliyar,(Directorate Of Indian Medicine And Homeopathy).Page709.

17. 46.Gray‟s Anatomy, Henery Gray, Thirty Eighth Edition , page no 1758-1764.

18. 47.Davidson‟s Principles & Practice Of Medicine, By John A.A. Hunter, 20th Edition, P. 885-888.

19. 48.Human Physiology C.C. Chatterjee Nov Edition 1997, page 509,510.

20. 49.Harrison‟s Principles Of Internal Medicine , Vol.2, P. 1596,1 th Edition.

21. 50.Robbinson‟s And Cotran Pathological Basis Of Disease Seventh Edition 2006. (page 773-775,774,776.)

22. 51. Hutchison‟s Clinical Methods, Michael Swash, 20th Edition, P. 75-77.

23. 52. Ghosh. M.N; Fundamentales Of Experimental Pharmacology, Kolkatta, Scientific Book Agency,2 Edition 5 & 155 (1984).

24. 53.Glossary Of Indian Medicinal Plants By R.N.Chopra, S.C. Nayar And I.C. ChopraReprinted 1986.

25. 54.National Institute Of Science Communication, New Delhi, P.246.

26. 55.Indian Medicinal Plants, Vol. 2. Kritikar And Basu, Illustrated By K.S.Maharkar, E. Blatter,J.E.Cavis, P.1178-1179.